KENTUCKY HIGHLANDS INVESTMENT CORPORATION

A Project for the USDA's Rural Placemaking Innovation Challenge

AHEAD

Affordable Housing Ecosystems Accessing Development

Prepared by Kentucky Highlands Community Development Corporation
December 2024

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OVERVIEW

Affordable Housing Ecosystem's Accessing Development's (AHEAD) objective was simple – increase the quality of life for public housing residents with broadband.

Broadband impacts the quality of life in five sectors: *education, healthcare, aging in place, employment, and entertainment.*

Education

Higher education has been moving to online platforms since the 1990s, led by notable institutions of higher learning like Columbia University and MIT (de Freitas et al., 2015), leading the US News to report in 2018 that online learning accounted for nearly 3.3 million students (US News Staff, 2021).

The University of the Cumberlands, Kentucky's fastest-growing private higher education institution, is fueled by online degree programming. Kindergarten through 12th-grade education found online delivery necessary during the COVID-19 pandemic. Students with broadband access could video conference with teachers—those without used paper packets. Post-pandemic, school districts are converting snow days to remote learning days (Liberman, 2020), stabilizing the school calendar.

Healthcare

The Health Resources Services Administration defines telehealth as using electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health, and health administration. Technologies include videoconferencing, the Internet, store-and-forward imaging, streaming media, and terrestrial and wireless communications" (HealthIT.gov, 2019).

During the COVID-19 pandemic, physician offices were closed. The only available access to physicians was through video conferencing or telephone. Before the pandemic, access to healthcare providers was an issue, and six of the eight targeted counties were defined as medically underserved.

Access to specialty and sub-specialties is more challenging, with three-hour one-way commutes commonplace. Additionally, mental and behavioral health care is particularly effective when delivered by telehealth. Therapists can provide frequent interventions and adjustments for patient care without the burden of transportation and distance (Henry, 2021).

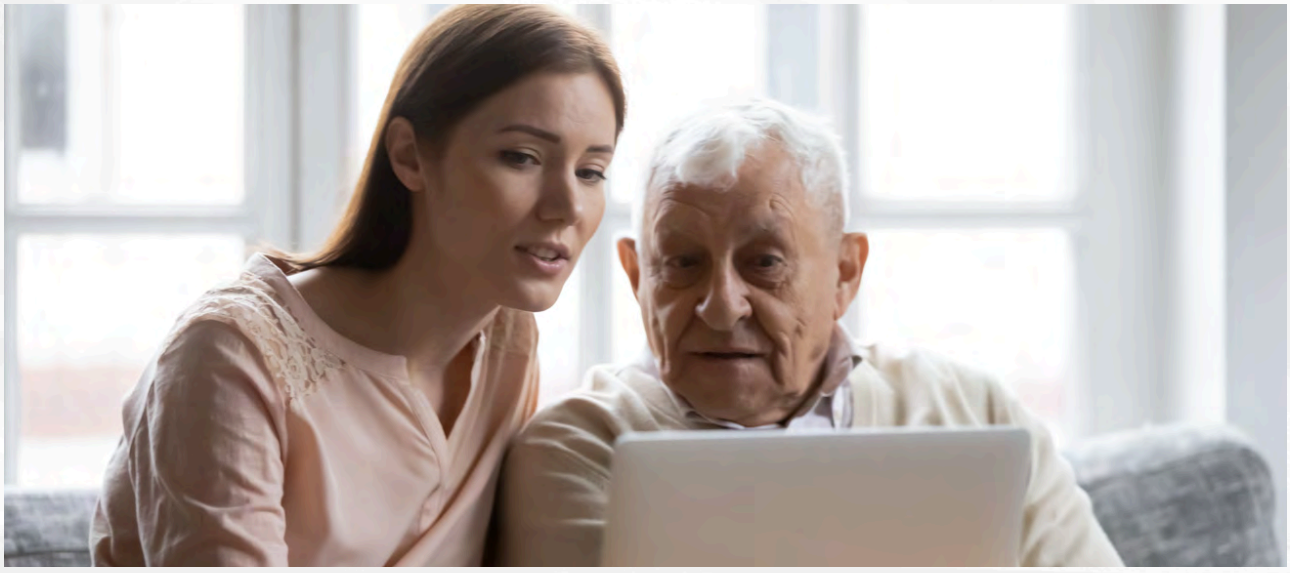
Aging in Place

Research on the relationship between quality of life and the elderly showed a positive correlation with accessing the Internet because of the "ability to communicate with family and friends, maintain a wide social network, have access to information and participate in online leisure activities" (Aggarwal et al., 2020).

The World Health Organization defines quality of life as one's "perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns" (WHO, 1998). The Internet impacts older adults' quality of life in three ways: increased self-sufficiency, self-efficiency, and psychological empowerment.

Older adults with increased communication with family and a support network had a lower tendency to loneliness and depression, better communication, and improved social interactions. They also experienced increased feelings of independence from maintaining social networks and accessing information, including health information. Third, older adults expressed increased well-being as the presence of positive emotions and moods such as contentment, happiness, satisfaction with life, and fulfillment. (Aggarwal et al., 2020).

Two researchers found the benefits so correlated that they declared, "Policies encouraging older adults to use the computer and Internet is vital to prevent their exclusion from society and enhance their quality-of-life" (Boz & Karatas, 2015).



Employment

Remote employment adaptation rose when, in 2018, 7% of civilian employees could work from home. The COVID-19 pandemic escalated this trend, with experts predicting that 26.7% of employees would work remotely in 2021 (William, 2021).

The B2B Reviews reported that as of August 2023, 12.2% of the workforce remains remote full-time, with 65% desiring full-time remote work (Carpenter, 2024). From an economic development perspective, promoting employment opportunities should have been the primary focus of AHEAD but, instead, was secondary.

Public housing residents avoid seeking employment because the rent subsidies for public housing drop dramatically for employed persons. Reduced subsidies and the region's limited affordable private housing stock prevented AHEAD from leading with this broadband impact.

Entertainment

The evolution of broadband, merging telecommunications and cable television, forces public housing residents to adopt broadband to continue accessing news and entertainment. This transition is particularly impactful to senior citizens who lack technology, i.e., a smart TV or knowledge of its use.

AHEAD trod lightly on this impact on quality of life, not wanting to use public dollars for the luxury of entertainment.

AHEAD's Approach to Placemaking

Rural Placemaking Innovation Challenge (RPIC) defined placemaking as "a collaborative process among public, private, philanthropic, and community partners to strategically improve the social, cultural, and economic structure of a community." Deputy Under Secretary for USDA Rural Development, Justin Maxson, called placemaking the "ecosystem of livability." Livability is often interchangeable with quality of life. Broadband commonly refers to high-speed internet access through multiple types of technology, allowing the rapid exchange of information. A study in Taiwan interviewing 3,563 ages 15 and above showed that "people who have a computer at home showed higher satisfaction on quality-of-life in dimensions of overall, social-economic status, social competence, psychological pressure, and physical health" (Liang, 2011). A Swedish study found " that mobile broadband speed and reliable connectivity positively impact public participation. People vote more in municipalities where mobile broadband speed is higher and fixed communication coverage is better" (Zaber et al., 2017).

AHEAD's theory of change was that persistent poverty communities can realize inclusive and equitable growth through place-based collective community development by first increasing the capacity of place-based collective community development initiatives.

For example, RPIC increases capacity through federal investments and AHEAD increases the effectiveness of public and private partnerships for inclusive and equitable growth, which results in a population-level change. Its strategy was to convene specific public, private, and philanthropic partners to remove barriers preventing public housing residents from accessing broadband. Those public partners included Kentucky USDA Rural Development, HUD, and the counties' fiscal courts. The private partners were Fahe, a nonprofit network of more than 50 affordable housing organizations serving the Appalachian region since 1980; the Center for Rural Development, a nonprofit organization providing leadership in the deployment of broadband since 1996; and CEDIK, Community and Economic Development Initiative of Kentucky, based in the College of Agriculture at the University of Kentucky, specializing in strategic planning and evaluation since 2010.

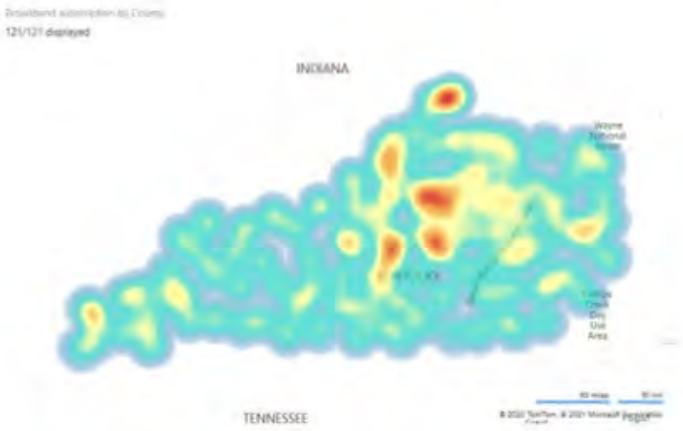
Since the Appalachian Regional Commission was formed in 1968, the AHEAD counties: Bell, Clay, Harlan, Knox, Leslie, Letcher, Perry, and Whitley Counties, have been listed as distressed. These counties' dependency on one industry, coal, has continued to make it economically vulnerable to changes in the energy industry, including competition from natural gas, solar, and cheaper coal. Environmentally friendly plants have replaced power plants relying on Kentucky coal. Coal mine employment lost 5,073 jobs, a 67% drop from 2011 to 2018. Coal production has declined by more than 70% in these eight counties between 2011 and 2018, compared to a 44.4% decline in Western Kentucky and a 62.8% decline statewide. Despite this decline, six of these counties' highest location quotients (LQ) remain for mining, oil, and gas extraction. LQ is an analytical statistic that measures a region's industrial specialization relative to a larger geographic unit. In these eight counties, healthcare employs the most people and is the region's only growth industry.

Every county has experienced a population decrease resulting in a 5% loss, more than 10,000 people since 2012. The AHEAD region has 17 incorporated cities containing 122 multi-family housing complexes. All the students of the 16 school districts qualify for free lunch. The median income spans a high of $39,900 in Whitley County to a low of $24,600 in Bell. Kentucky's median income is $52,295, and the nation's is $60,500.

Demographically, the population is Non-Hispanic White, with 92.6% in Clay County and 97.7% in Leslie County. Clay County has the highest Black or African American population at 3%, and Whitley County has the highest Hispanic population at 1.2%. The average age in Kentucky is 38.9, but the region’s average age is older, with the oldest 42.4 in Letcher County.

AHEAD project area is multi-jurisdictional with eight county governments, 17 municipal governments, two Area Development Districts, and two workforce development agencies. Kentucky Highlands has worked across these jurisdictions, leading and implementing regional community and economic development planning work for 55 years, particularly during the past 10 years as America’s first rural Promise Zone.

Broadband Subscription



Kentucky's HUD office prepared heat maps of broadband connectivity for Kentucky which (remember the Promise Zone is the throat of the fish) demonstrate the broadband connectivity. *Cool colors represent low subscriptions.*

HUD also prepared a chart showing how the eight counties of the Promise Zone are as much as 21% lower of households with a computer than the state and as much as 24% below the state in subscriptions to broadband.

County	Median Income	Percentage of People Living In Poverty	Households with a computer, percent, 2013-2017	Households with a broadband internet subscription, percent, 2013-2017
Kentucky	$46,535.00	17%	82%	72%
Bell	$23,538.00	37%	66%	57%
Clay	$24,596.00	42%	73%	68%
Harlan	$24,451.00	42%	69%	58%
Knox	$26,061.00	32%	61%	48%
Leslie	$27,861.00	31%	68%	59%
Letcher	$30,293.00	31%	76%	64%
Perry	$31,820.00	26%	76%	70%
Whitely	$34,103.00	27%	70%	60%

Broadband Lack of Affordability

County	Internet Service Providers	City	Cost
Bell	AT&T, dishNet, Viasat, HughesNet, Earthlink, Toast.net, DSLextreme, dishnet, Straight Talk, Spectrum	Middlesboro	AT&T $10 a month; Free wireless & data; Spectrum $5 a month
Bell	AT&T, Straight Talk, Spectrum	Pineville	AT&T and Spectrum available but residents are paying $50 - 75
Whitely	AT&T, dishNet, Earthlink, HughesNet	Williamsburg	$8.90 earthlink
Whitely	AT&T	Corbin	dishnet/hughesnet 83/month
Clay	Spectrum, earthlink, Hughesnet, Dishnet, Viasat, Windstream	Manchester	Windstream $50
Harlan	Earthlink, HughesNet, Viasat	Cumberland	$69.90 for satellite
Knox	Spectrum, AT&T, Barbourville Utility	Barbourville	$60/month package for cable and internet
Leslie	TDS, Thacker Grigsby	Hyden	$44.95 TDS
Letcher	AT&T, Dishnet, HughesNet, Viasat, earthlink	Jenkins	Access customer $10 ATT
Perry	TDS, Windstream, Thacker Grigsby	Hazard	$24.98 with discounts

The HUD office completed a comprehensive survey of each county's broadband service providers and their monthly fees. What their research does not show is the bandwidth offered by these providers and if that bandwidth is robust enough to allow for education and telehealth. AHEAD would gather that data.

Year One in Review

AHEAD partners, including USDA, Fahe, and other organizations, convened for a virtual kick-off meeting to coordinate efforts.

The AHEAD Coordinator participated in a HUD ConnectHome virtual conference, contributing to discussions on digital equity. A Google Earth map was also developed to visualize public housing data across the region.

The Center for Rural Development engaged Eastern Telephone and Technologies (ETT), a Pikeville, Kentucky-based internet service provider and regional leader in digital equity, to develop a platform for managing and streamlining interactions across all 122 public housing campuses.

Key Challenges and Adjustments:

- Fahe's point of contact changed during the project, leading to delays.
- A script for interviewing public housing managers was created, but response rates were low.
- The Community and Economic Development Initiative of Kentucky (CEDIK) developed a comprehensive 100-question broadband quality-of-life survey, which was later condensed for practical use.
- Fahe's outreach efforts in the first year were significantly impacted by historic flooding in the region.

Fellowship and Collaboration:
AHEAD benefited from the Lead for America Fellowship through The American Connection Corps (ACC), a partnership between Lead For America and Land O'Lakes focused on advancing digital inclusion and broadband connectivity. Four Fellows supported the East Kentucky Region for two of the three years of the RPIC grant, spearheading drives to enroll residents in the Affordable Connectivity Program (ACP).

Broadband Provider Engagement and Advocacy:
The AHEAD Coordinator met with broadband providers to encourage greater participation in the ACP program and to advocate for a $30 or near $30 low-cost internet product for public housing residents.

The Coordinator also attended Broadband Board meetings across eight counties to assist in expanding connectivity. In the last quarter of the first year, AHEAD supported House Enterprises, an Internet Service Provider (ISP), in applying for the ACP provider program, identifying grant opportunities, and discussing potential acquisitions.

Year Two in Review

AHEAD collaborated with Rural LISC to promote its Broadband Adoption Guide and applied for FCC Digital Navigator funding.

Another Eastern Kentucky nonprofit, Shaping Our Appalachian Region (SOAR), received funding to enhance digital equity initiatives in AHEAD's service area and neighboring counties. Additionally, Partners for Rural Impact, a nonprofit providing comprehensive services to school districts, secured a USDA RPIC grant to support libraries in delivering broadband education.

Kentucky's new Office of Broadband Director, along with the NTIA Federal Program Officer, were briefed on AHEAD's progress. Meanwhile, broadband provider Thacker and Grigsby was awarded a $12 million USDA ReConnect grant for fiber deployment in Leslie County. PRTC, an Internet Service Provider, launched a new low-cost internet plan for public housing residents, and House Enterprises successfully enrolled its first Affordable Connectivity Program (ACP) participant. Additionally, Clay County issued a Request for Proposals (RFP) for a broadband feasibility study.

Challenges in Year Two:

- Zetalink withdrew from the ACP, impacting the region's efforts to expand connectivity.
- AHEAD faced difficulties maintaining collaborative relationships with competing ISPs over service territories.

Key Milestones:

- Mid-year, AHEAD sought a 12-month extension for the RPIC grant.
- AHEAD's parent company, Kentucky Highlands Investment Corporation, was named the lead entity for the first round of the USDA's Rural Partners Network initiative. However, the added responsibilities, coupled with ongoing disaster recovery efforts from the 2022 flood, stretched the capacity of AHEAD's partners.

Despite competition, AHEAD successfully brokered collaboration between rival ISPs, enabling ISP BLINK to resolve technical issues and receive its first ACP payment. AHEAD also increased engagement with public housing residents through door-to-door outreach, providing referrals to SOAR for ACP enrollment and to Connected Nation for remote employment opportunities.

Attempts to connect with public housing residents through on-site ACP fairs had limited success. To improve accessibility, AHEAD established a dedicated phone line with a 24/7 answering service. Flyers with the contact information were distributed across the Williamsburg, Pineville, Barbourville, and Manchester campuses and through ISP BLINK's office. Additionally, Fahe, a partner organization, shifted its focus from managing public housing to studying residents' relationships with broadband and its impact on their quality of life.

The Final Year Summary

In its concluding year, AHEAD focused on sustaining digital equity efforts, building partnerships, and addressing ongoing challenges in broadband adoption and connectivity in Eastern Kentucky.

Key Activities and Milestones:

Transition and Outreach:

- Fahe concluded its partnership with AHEAD, transferring the responsibility of interviewing public housing residents to the AHEAD Coordinator. Despite increasing its contact list by 65%, largely through supporting ISP BLINK's Affordable Connectivity Program (ACP) enrollment, responses from residents to outreach efforts remained minimal.

Collaborations and Partnerships:

- AHEAD facilitated a meeting between ISP OnPoint Broadband and Accelecom to improve broadband service in Knox and Laurel counties. The initiative also maintained strong ties with the Leslie County Broadband Board and the Red Bird Broadband Action Team, promoting USDA ReConnect funding opportunities.

Statewide Engagement:

- The Kentucky Digital Equity Plan was distributed, and AHEAD worked closely with the Kentucky Office of Digital Equity to support broadband deployment in flood-impacted Letcher County.

Challenges:

- The depletion of ACP funds led to a suspension of new enrollments, halting progress on referring residents and collecting survey data. Before the program ceased, AHEAD successfully referred over 20 individuals.
- Efforts to engage public housing residents through digital literacy programs, such as SOAR’s North Star Digital Literacy initiative, were deemed less impactful than ACP for driving action.

Outcomes and Reflection:

Despite setbacks, AHEAD facilitated critical partnerships, promoted funding opportunities, and laid groundwork for future broadband deployment. Its efforts contributed to addressing digital inequities in underserved communities, even as external challenges impacted momentum in its final phase.

CEDIK, Center of Economic Development in Kentucky, located in the College of Agriculture at the University of Kentucky, provided a statistical analysis of all quality-of-life surveys completed by public housing residents.

The key findings of the survey are highlighted below:

- Most survey respondents were over the age of 50, with many living in small households.
- While many residents have access to the internet via mobile devices, affordability remains a major barrier for those without internet service.
- A significant proportion of respondents are retired or living with disabilities, which impacts their internet usage patterns and overall needs.
- The primary reasons for internet use are entertainment, social inclusion, and staying connected with family and friends.
- Few of the respondents use the internet for school. However, this is not surprising since most respondents have indicated that there are no children living in the household.
- More than 70% of respondents are online for at least one hour per day, and most are satisfied with the internet speeds.
- Most respondents are comfortable with using the internet for entertainment and social purposes. However, less than 45% of respondents feel comfortable using the internet for telehealth, revealing a gap in confidence that can be addressed through education and training.

These results of the AHEAD survey highlight the opportunities and challenges in improving broadband access and digital literacy among public housing residents in the Appalachian region and underscore the need for targeted interventions to improve not just the physical infrastructure of broadband but also the digital literacy of residents, ensuring they can fully benefit from the services available online.

BARRIERS: INTERNET SERVICE PROVIDERS

Internet service providers (ISPs) were identified utilizing FCC data for the AHEAD RPIC application; however, AHEAD discovered other ISP providers upon visitation. These cable companies included House Enterprises in Manchester, OnPoint Broadband for rural Laurel and Knox County, Zetalink in Corbin, Harlan 2 Way in Harlan County, and Access Cable in Harlan County.

House Enterprises had the oldest technology, utilizing fifty-year-old coax cable to run the internet. Their service was fraught with customer dissatisfaction and outages. A modest investment in fiber optics was made for one public housing campus, but the company lacked the capital to pursue other upgrades. House was also confronted with competition from a regional co-op, PRTC. House Enterprises explored grant funding but was hindered by internal capacity, match dollars, and for-profit status. AHEAD assisted House in applying for a UEI, formerly a SAMs number, and in locating their DUNs and FCC numbers.

AHEAD also introduced House to ETTky to discuss long-term options. AHEAD approached the judge executive to address the county's fiscal court in applying for a feasibility grant to document the current state of broadband in Clay County. This feasibility study was essential for House Enterprises to apply for broadband grants.

Zetalink is a fixed wireless system competing in a market dominated by Spectrum. Their presence at the Corbin Housing Authority was because the Housing Authority was entangled in a lawsuit with Spectrum. Zetalink had limited access to capital, was for-profit, and fundamentally disagreed with government funding in industry markets.

Access Cable and OnPoint were investing in upgrading their technology but were limited by their for-profit status. While grants are available for for-profit providers, they are highly competitive, often requiring outside consultants, and time-consuming. More than one independent ISP shared spending more than $50,000 to apply for federal funding without success. Harlan 2 Way was utterly inaccessible, answering neither emails nor phone calls.

In addition, these private and smaller providers' products were priced above the public resident's modest income to obtain. The Affordable Connectivity Program (ACP) did assist; however, these small providers could not profitably offer a $30 product. AHEAD persuaded the co-op PRTC to provide a $35 product available only to public housing residents. Existing clients were enthusiastic about the new product, but it had little impact on new client enrollment.

AHEAD assisted House Enterprise, Zetalink, and BLINK in enrolling successfully in the ACP program. House and BLINK participated in the program until its conclusion in 2024. Zetalink had no patience for government contracting and discontinued participation within a month of acceptance. Barbourville Utilities, doing business as BLINK, expanded fiber optic to every premise within their service area but was unsuccessful in accessing the provider portal for ACP. AHEAD coordinated a meeting between BLINK and ETTky to diagnose and treat the problem. BLINK received its first ACP payment in August 2023. BLINK's participation in ACP was shared with the SOAR digital equity team, the Barbourville Housing Authority, and the Cumberland Valley Housing Authority.

AHEAD brokered a meeting between ISP, OnPoint Broadband, and Accelecom, Kentucky's statewide middle-mile provider. OnPoint wanted to compare Accelecom's rates with those of its current middle-mile provider. AHEAD's tenacity resulted in an appointment. AHEAD also worked with ETTky to provide fixed wireless for the public housing campus in Harlan County.

The national ISPs Spectrum, Kinetic, formerly Windstream, AT&T, and TDS, had signed the Biden Harris administration's $29.99 commitment to create an entry-level product at that price. ACP-eligible residents would essentially receive broadband for free. Kinetic enrolled residents in Barbourville and Pineville. Spectrum did the same in Williamsburg. Sadly, these companies also closed or consolidated local offices, directed service problems to web-based customer service, and provided little in digital literacy.

Manchester Heights' ISP held an ACP drive and reduced their ACP rate to $35. Follow-up with this ISP indicated that only one additional resident had enrolled for broadband.

BARRIER: PUBLIC HOUSING MANAGEMENT

Fahe is a purpose-oriented network of fifty-plus affordable housing nonprofits serving the Central Appalachian states and was AHEAD's partner for connecting with public housing management. A script was written for consistent interviewing. Fahe's point of contact changed several times during the project, but each experienced low response rates with unanswered phones and unreturned messages.

Many of the campuses are managed by off-site and even out-of-state companies. These absentee managers provided little access to advance objectives. Once located, managers were often apathetic about the residents' use of technology and did not see a role in improving the residents' quality of life. One manager prevented ACP enrollment flyers from being distributed to residents as a violation of its no-solicitation policy.

AHEAD worked with an innovative manager to offer a broadband solution for the entire campus. Fixed wireless was explored, but the decades-old cedar block building construction limited the penetration of the wireless signal and nullified wireless as an option. When exploring one ISP provider wiring the entire campus with fiber optic, a HUD regulation created a barrier. A scoring system evaluates the manager's performance. Managers are penalized if the units have too many wires attached. His desire for an outstanding score reduced his interest in pursuing a campus-wide solution. Fahe introduced Rural LISC's Christa Vinson to the AHEAD work and shared resources.

If AHEAD had the opportunity to proceed differently, it would not have partnered with affordable housing but instead with housing authorities. AHEAD had a relationship with the affordable housing industry and erroneously thought there was an overlap with the public housing industry. In hindsight, that overlap did not readily exist. Even Fahe was surprised by this lack of relationships between their membership and the housing authorities.

BARRIER: PUBLIC HOUSING RESIDENTS

Public housing residents vary widely in age, education, and abilities, but share a common challenge: an extreme lack of disposable income, which prioritizes immediate needs over long-term goals. Elderly residents were generally satisfied with current cable access, but OnPoint Broadband's planned transition to internet streaming raised concerns about their ability to adapt. Disabled residents expressed the most interest in broadband for improving their quality of life but faced price barriers. Adults with children were the hardest to reach, showing little response to outreach events or a 24-hour call-in system.

The Lead for America Fellows held two Affordable Connectivity Program (ACP) enrollment drives (formerly the Emergency Broadband Accessibility Plan) in Clay County, educating three residents, signing one resident onto the plan, and distributing flyers to 41 individuals.

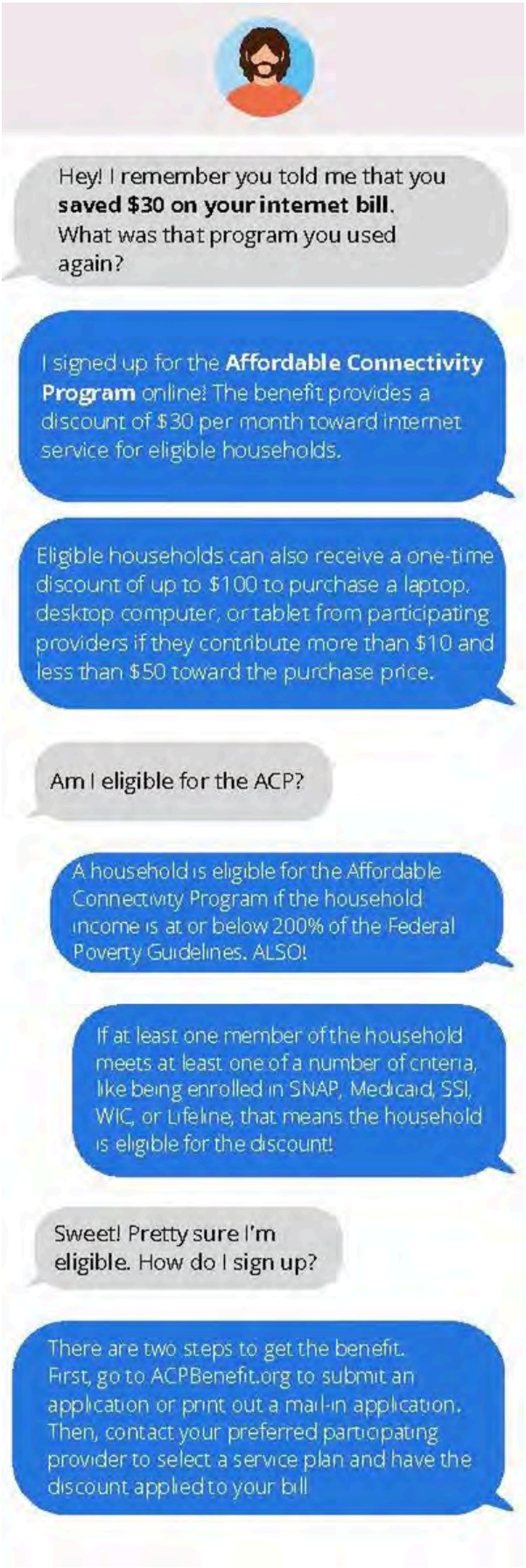
The fellows met with the Leslie County Fiber Board to determine why Leslie County had only a 30% ACP enrollment rate despite the school's free lunch status qualifying all families. The most likely reason was the poor availability of broadband throughout the county.

The Fellows received poor responses to inquiries from county judges and mayors regarding a discussion of broadband boards. They met with the Corbin Mayor and Whitley County Judge Executive.

Fellows received a poor response from public libraries regarding interest in distributing ACP information to patrons.

Fellows designed place signs and bookmarks for libraries to distribute to patrons.

Bookmark Front



Bookmark Back

At the Red Bird Mission in Beverly, the enrollment in ACP increased: Bell by 58.11%, Clay by 66.73%, and Leslie by 47.45% from August 2022 to May 2023.

Through a partnership with Shaping Our Appalachian Region, SOAR, 30 STARLINK units in Clay and Bell Counties were installed, providing The Red Bird Mission Senior Center with internet for the first time.

The fellows provided the first Digital Literacy Foundational Class in October 2022 and the Summer Digital Skilling Class in July 2023 with five Senior Citizens and 11 students. In addition, they received grants from the AARP for Seniors4Seniors: $11,250, Connect Humanity: $30,000, Kentucky Broadband Office: $10k, and an Appalachian Regional Commission POWER Technical Assistance Grant for $50,000.

AHEAD held three ACP drop-in drives at the Corbin Housing Authority with minimal success. Anti-solicitation rules and a recent history of animosity between management and residents make ACP drives particularly problematic. AHEAD also met with residents of Manchester Heights regarding the current use of broadband, completing several quality-of-life surveys.

AHEAD moved away from in-person education to resident-initiated inquiries. ETTky provided a free local phone messaging system whereby a resident could call for more information on the ACP. The resident's voice message was converted to an email in AHEAD's inbox. A return call followed within one working day. Flyers were designed, copied, and delivered to The Cumberland Valley, Williamsburg, Manchester, Middlesboro, and Pineville Housing Authorities agreed to distribute flyers during public enrollment hours. Twenty-six residents have been engaged. Fahe's scope of work was modified to include collecting broadband quality-of-life surveys.

Contacting public housing did sustain a delay when, on July 28, 2022, unprecedented flash flooding occurred in half of the counties. More than 1,200 homes were lost. Fahe became essential to the housing recovery efforts and concluded their work with AHEAD. AHEAD assumed responsibility for interviewing residents and increased the contacts list by 65%. This growth stemmed from AHEAD's work removing the barrier to ISP BLINK's access to the ACP program and BLINK's promotion of the program. In addition, ACP flyers were hand-delivered to the front door of over 200 residents. Interest in remote work was included in the quality-of-life survey, and those interested were referred to Connected Nation to explore remote employment opportunities.

LEAD FOR AMERICA

The Lead for America Fellowship lasted two years. The fellows played a pivotal role in advancing AHEAD's mission by fostering community engagement, raising awareness, and building key partnerships.

Key Achievements:

- **Community Engagement:**
  - Established the Red Bird Broadband Action Team.
  - Conducted Listening Tours, engaging over 60 individuals within a two-to-three-month span.
  - Organized multiple Affordable Connectivity Program (ACP) enrollment drives in the PRTC service area.
- **Outreach and Awareness:**
  - Presented AHEAD and broadband awareness at several high-profile events, including:
    - SOAR Summit 2022
    - Cowan Community Center
    - Governor's Address 2022
    - Rural Summit 2022 (Scottsdale) and Rural Summit 2023 (Charlotte)
    - Hazard Perry Chamber of Commerce 2023
    - East Kentucky Leadership Conference 2023
- **Strategic Advocacy:**
  - Met with Megan Sandfoss, the new Executive Director of the Kentucky Office of Broadband, and the Kentucky-West Virginia Director of the NTIA.
  - Successfully persuaded both leaders to visit the remote Red Bird community, highlighting the challenges and opportunities for broadband deployment in underserved areas.

Impact:
Through their efforts, the fellows significantly enhanced broadband awareness, expanded community involvement, and strengthened relationships with state and regional broadband leaders, contributing to AHEAD's mission of advancing digital equity in Eastern Kentucky.

KENTUCKY HIGHLANDS IN PARTNERSHIP WITH THE CORBIN HOUSING AUTHORITY EXPLAINS HOW TO GET

FREE INTERNET

Snacks Provided

STOP BY THE OFFICE TO LEARN MORE

Thursdays
December 8, 15, and 22
2 p.m. until 5 p.m.

KENTUCKY HIGHLANDS EXPLAINS HOW TO GET GET....

$30 A MONTH

LEARN MORE BY CALLING SANDI OR JON AT 606-766-5656


Affordable Connectivity Program
What is it? A discount of $30 off of your monthly internet bill!
How do I qualify? A household is eligible for assistance if:
• Your household income is at or below 200% of the Federal Poverty Guidelines;
• You or a dependent participate in government assistance programs such as SNAP, Medicaid, WIC, SSI, FPHA, Veteran's Pension and Survivor benefits, or Federal Pell Grant;
• Your dependent participates in the Free and Reduced-Price School Lunch Program or is enrolled in a USDA Community Eligibility Provision school.
Learn more and sign up at: fcc.gov/acp
Tip: Once your receive confirmation of your enrollment, contact your internet provider!

The Affordable Housing Ecosystem's Accessing Development (AHEAD) Project

Survey Results Report

Prepared For:

The Kentucky Highlands Investment Corporation

Prepared By:

Community and Economic Development Initiative of Kentucky (CEDIK)

October 2024

College of Agriculture, Food and Environment
Community and Economic Development Initiative of Kentucky

Kentucky Highlands Investment Corporation

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Key Findings

The AHEAD project highlights the important role that broadband plays in enhancing the quality of life for public housing residents, particularly in underserved Appalachian counties. Access to the internet facilitates critical services such as education, healthcare, social inclusion, and entertainment, making broadband an essential infrastructure for marginalized communities. To better understand issues with internet access and use for these communities, residents living in public housing, from six economically distressed counties in Appalachia, were asked to participate in a survey assessing their access to electronic devices, the preference for internet usage and the quality of the broadband service.

The key findings of the survey are highlighted below:

- Most survey respondents were over the age of 50, with many living in small households.
- While many residents have access to the internet via mobile devices, affordability remains a major barrier for those without internet service.
- A significant proportion of respondents are retired or living with disabilities, which impacts their internet usage patterns and overall needs.
- The primary reasons for internet use are entertainment, social inclusion, and staying connected with family and friends.
- Few of the respondents use the internet for school. However, this is not surprising since most respondents have indicated that there are no children living in the household.
- More than 70% of respondents are online for at least one hour per day, and most are satisfied with the internet speeds.
- Most respondents are comfortable with using the internet for entertainment and social purposes. However, less than 45% of respondents feel comfortable using the internet for telehealth, revealing a gap in confidence that can be addressed through education and training.

These results of the AHEAD survey highlight the opportunities and challenges in improving broadband access and digital literacy among public housing residents in the Appalachian region and underscore the need for targeted interventions to improve not just the physical infrastructure of broadband but also the digital literacy of residents, ensuring they can fully benefit from the services available online.

Background Information

The Affordable Housing Ecosystem's Accessing Development (AHEAD) project was launched to improve the quality of life for public housing residents by expanding access to broadband. In today's increasingly digital world, broadband access is not a luxury—it is a necessity that significantly impacts critical areas of daily life, such as education, healthcare, employment, and social connectivity. AHEAD's goal was to leverage access to broadband as a key enabler of social and economic development, particularly in underserved, economically distressed rural communities in the Appalachian region of Kentucky. The project targeted counties—Clay, Harlan, Knox, Lincoln, McCreary and Whitley—that have been economically distressed for decades, largely due to their dependence on coal. By working across jurisdictions, AHEAD aimed to address broadband access issues and identify systemic barriers to economic development, education, and healthcare.

The digital divide in rural areas tends to be higher than in urban areas, especially in underserved regions. AHEAD focused on bridging the gap by providing public housing residents—who are often disproportionately impacted by this divide—with the tools they need to access online resources. By providing targeted intervention to improve not just the physical infrastructure, but also the digital literacy of the residents, AHEAD can ensure that people from economically challenged areas could participate fully in the evolving digital landscape. The AHEAD initiative has the potential to bridge the existing gaps, promoting greater digital inclusion by addressing both the affordability of internet services and providing education on its effective use. Such efforts would empower residents to better access healthcare, remain connected with family and friends, and enhance their overall quality of life.

To gain a better understanding of the gaps and opportunities in broadband access and needs for public housing residents, the AHEAD team conducted a survey that assessed respondents' access to electronic devices, their internet usage patterns, the quality of the broadband service, and more. The following section of the report presents the survey's findings.

Survey Results

The Affordable Housing Ecosystem's Accessing Development (AHEAD) survey targets one of the consistently underserved populations – *public housing residents* – in six economically distressed counties in Kentucky (Clay, Harlan, Knox, Lincoln, McCreary and Whitley). The purpose of the survey is to gain a clear understanding of the specific broadband needs and challenges faced by residents living in public housing. By collecting data directly from the community, AHEAD can identify gaps in access to technology, the quality of current broadband services, and how residents utilize the internet across key areas such as education, healthcare, and employment. These insights allow for more targeted and effective interventions, ensuring that the project addresses the real barriers to improving quality of life and expanding digital equity within these underserved populations. The survey consisted of demographic questions, as well as questions on respondents' access to internet and usage patterns.

A total of 58 surveys were collected, either in person or by phone. Table 1 below shows the distribution of respondents by county and gender. The survey results indicate that the average household size is 1.6 people, with less than one child per household on average. This is not surprising given that most of the respondents are above 50 years old (Table 2).

Table 1. Distribution of respondents by gender

County	Female	Male	Total
Clay	6	0	6
Harlan	1	0	1
Knox	28	12	40
Lincoln	1	0	1
McCreary	1	0	1
Whitley	7	2	9
Total	44	14	58

Table 2. Distribution of respondents by age

County	20 - 29 yrs old	30 - 39 yrs old	40 - 49 yrs old	50 - 64 yrs old	65 yrs old or above
Clay	0	0	0	2	4
Harlan	0	0	0	1	0
Knox	4	4	5	11	16
Lincoln	0	0	0	0	1
McCreary	0	0	0	0	1
Whitley	0	1	3	5	0
Total	4	5	8	19	22

The distribution of respondents by education level is displayed in Figure 1. As the results depict, most of the participants have at least the GED. Figures 2–4 further detail the demographic breakdown, highlighting the percentages of respondents who are white, retired, or living with a disability.

When asked about their type of internet access, most respondents reported using cellular, cable, and/or fiber optic services (Table 3). Among those without internet access, the *primary barrier* cited was the high *cost of subscription*.

Figure 1. Distribution of respondents by education level

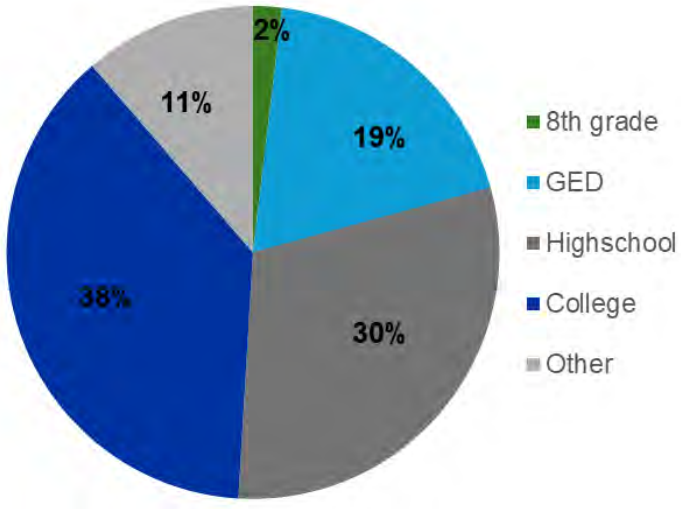


Figure 2. Percent respondents that are white

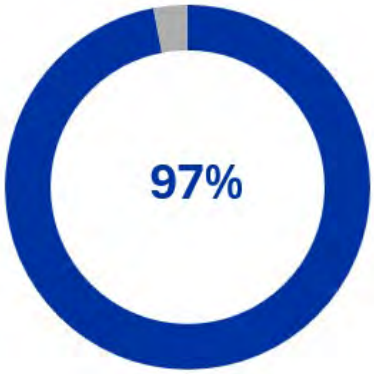


Figure 3. Percent respondents that are retired

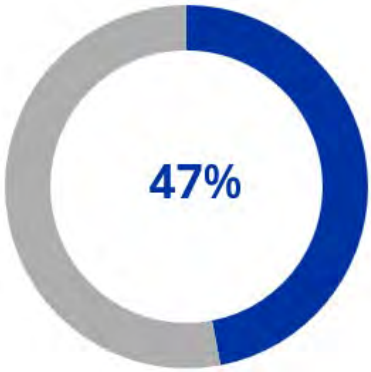


Figure 4. Percent respondents with a disability

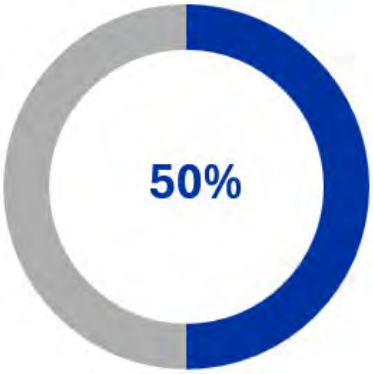


Table 3. Type of connection to internet*

County	Cellular	Cable	Fiber Optic
Clay	5	4	2
Harlan	1	0	0
Knox	34	1	31
Lincoln	1	1	0
McCreary		1	0
Whitley	8	6	0
Total	49	12	33

* Many respondents have access to both cellular and cable or fiber optic

Most of the respondents access the internet primarily through their smartphones or tablets, as illustrated in Table 4. However, many report feeling only somewhat comfortable or not comfortable at all when using the internet (Table 5). A small percentage of participants (10%) face situations where more than one person in the household needs to use the internet simultaneously, and only 9% need to access the internet outside of their home.

Over 70% of respondents use the internet for at least one hour per day, but not more than six hours (Figure 5). Most are either neutral or satisfied with the speed of their internet connection (Table 6).

Table 4. Type of electronics used to connect to internet

County	Smart phone	Tablet	Gaming console	Laptop/Desktop	Smart TV
Clay	4	4	0	6	4
Harlan	1	1	0	0	1
Knox	33	13	7	14	27
Lincoln	1	1	0	0	1
McCreary	1	1	0	0	0
Whitley	9	3	1	1	4
Total	49	23	8	21	37

Table 5. Comfort with using the internet (number of responses)

Very comfortable	Comfortable	Neutral	Somewhat comfortable	Not at all comfortable
12	1	12	6	27

Figure 5. Time spent using the internet

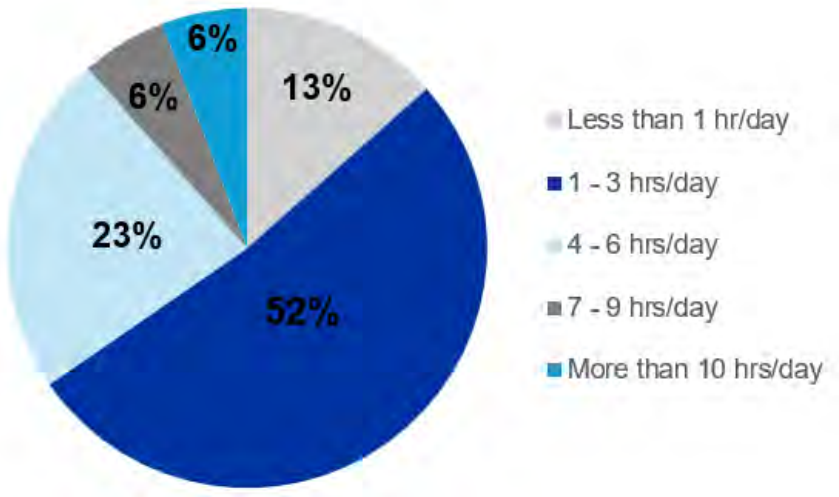


Table 6. Internet speed (number of responses)

Very slow	Slow	Neutral	Fast	Very fast
6	1	19	4	11

Survey participants were asked to identify their top three reasons for using the internet. Figure 6 highlights the most common responses for each of the three main reasons. If a reason appears in more than one column, it indicates that participants ranked it as either their primary, secondary, or tertiary reason for internet use. For instance, accessing the internet for watching TV or entertainment is listed in all columns, meaning that for some respondents, entertainment is the primary reason, while for others, it is their second or third priority.

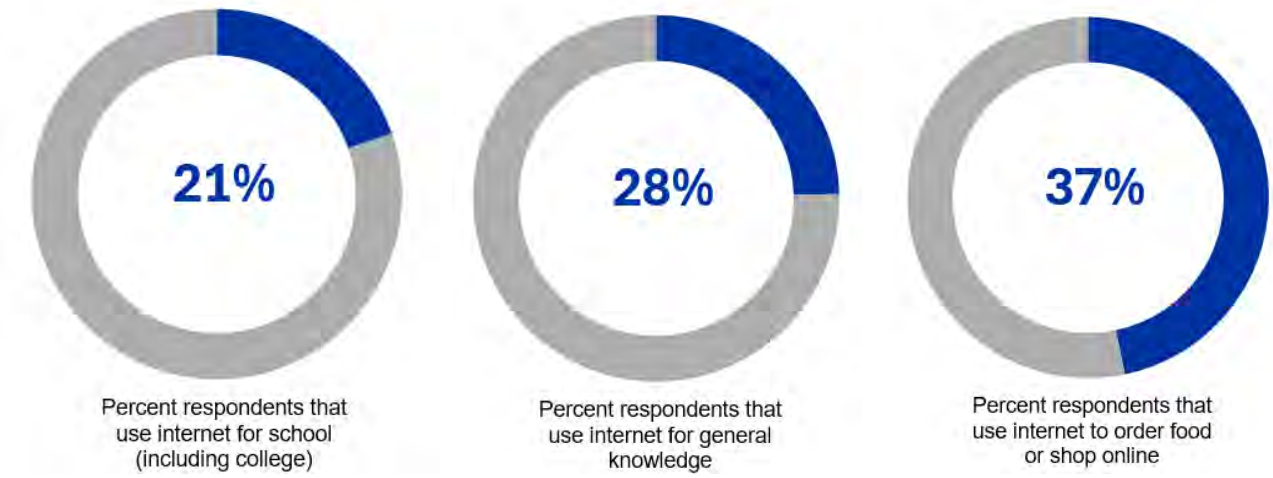
Using the internet for entertainment or social inclusion plays a critical role in enhancing quality of life, especially for marginalized populations. Broadband provides access to news and cultural programming and helps individuals stay connected with family, friends, and the broader world. This connection helps reduce feelings of isolation and supports a sense of belonging.

Participants were also asked whether they used the internet for specific purposes, such as education, employment, or to shop online. The percentage of respondents who reported using the internet for each of these purposes is displayed in Figure 7.

Figure 6. Most frequent reasons for using internet

First choice	Second choice	Third choice
Entertainment/TV	Entertainment/TV	Shopping
Family/friends	Social media	Healthcare
Shopping	Shopping	Other/web browsing
Healthcare	Family/friends	Entertainment/TV
Games	Games	Social media

Figure 7. Internet access for specified reason



In addition to general internet usage, respondents were asked about their experiences using the internet for healthcare. Healthcare delivery has experienced a significant transformation in recent years, with telehealth becoming increasingly prominent. In medically underserved regions like the counties targeted by the AHEAD project, telehealth serves as a vital tool, enabling residents to connect with healthcare providers for routine checkups, specialist consultations, and even mental health services. By reducing barriers related to distance, cost, and transportation, telehealth makes healthcare more accessible and helps improve overall health outcomes.

Over 40% of respondents indicated that they have access to a healthcare professional or doctor for their medical needs (Figure 8) and have either used or been offered the option of using video calls for healthcare services (Figure 9). However, fewer than 45% of participants reported feeling comfortable or very comfortable using the internet for telehealth (Table 7), indicating a need for further support in adapting to this mode of healthcare delivery.

Figure 8. Percent respondents that have a doctor

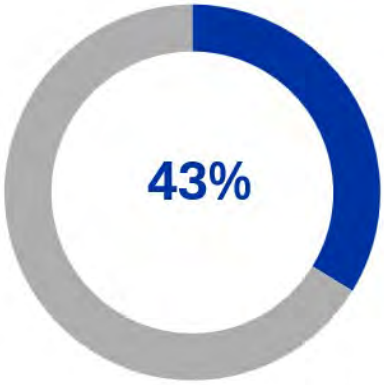


Figure 9. Percent respondents that used telehealth

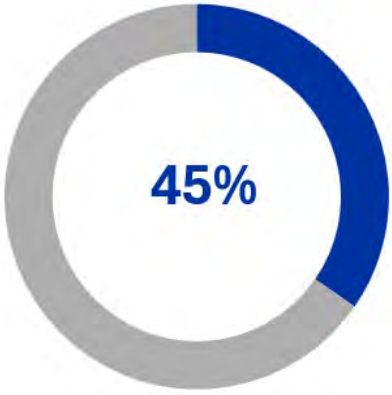


Figure 10. Percent respondents pleased with internet speed for video

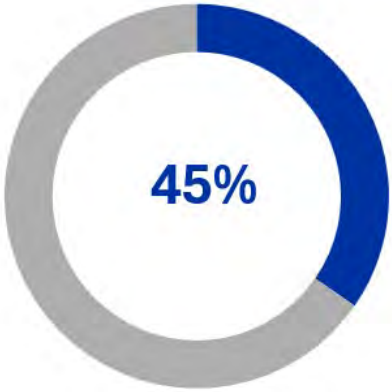


Table 7. Comfort with using internet for telehealth (number of responses)

Very comfortable	Comfortable	Neutral	Somewhat comfortable	Not at all comfortable
20	5	8	1	21

Summary and Conclusions

The AHEAD project recognizes the significant role that internet connectivity plays in sectors such as education, healthcare, aging in place, employment, and entertainment. This is particularly important for the underserved counties in the Appalachian region, where economic hardship, healthcare shortages, and declining industries have long impacted the well-being of residents.

A survey was conducted to assess the current state of broadband access and usage among public housing residents, yielding responses from 58 individuals across six counties in Eastern Kentucky. The survey findings provide insights into the demographics, internet usage patterns, and barriers to connectivity within the community. The results illustrate that the average household size of the respondents is small, and more than half of the participants are over the age of 50. Educational attainment is relatively high, with most participants having achieved at least a GED. Although many respondents are retired, broadband could still be a gateway to employment opportunities for those able and willing to work. Promoting remote work opportunities and providing training for digital skills could help residents access jobs and reduce economic vulnerability.

The majority of the respondents rely on mobile devices such as smartphones or tablets and use cellular, cable, or fiber optic connections to access internet. However, affordability remains a significant barrier for those without internet access. While a majority use the internet for at least an hour per day and are satisfied with their internet speeds, the comfort with using the internet varies, particularly in the context of telehealth services.

The survey also revealed that respondents use the internet for a variety of reasons, with entertainment, social inclusion, and maintaining connections with family and friends being major motivations. Broadband access is seen as a key factor in improving quality of life by providing access to news, cultural content, and social interactions. However, less than half of the participants feel comfortable using the internet for healthcare purposes, despite the growing reliance on telehealth in these medically underserved regions. Implementing digital literacy programs tailored to public housing residents would help bridge this gap. These programs could focus on basic internet skills, navigating online healthcare services, accessing educational resources, and understanding cybersecurity to ensure safe and effective use of broadband. Workshops and one-on-one support could be delivered by local organizations or through partnerships with libraries and community centers. Addressing these issues of affordability, digital literacy, and technology access can foster a more inclusive and equitable digital landscape. Public housing residents, especially in rural and underserved areas, would be better positioned to take full advantage of the opportunities that broadband offers in education, healthcare, employment, and social inclusion.

Martin-Gatton
College of Agriculture,
Food and Environment

CEDIK | Community & Economic
Development Initiative of Kentucky

Do you have internet?

Y / N

If yes, do you have a....

- Mobile phone Y / N
- Cable TV Y / N
- Satellite dish Y / N
- Dial Up Y / N
- Fiber optic Y / N

If no, check why not?

- Cost _____
- Coverage _____
- Availability _____
- Access or Knowledge _____
- Other: _____

Rank top three reasons you use the internet?

- Engaging with friends/family
- TV, videos, and music ____
- Looking at websites ____
- Shopping ____
- Working ____
- School ____
- Games ____
- Healthcare ____
- Selling things ____
- Emailing/messaging ____
- Other:_____

Tell Us About YOU!

How old are you?

Which County are you from?

How many people live in your home?

How many children live in your home?

Do you have your high school diploma, GED or college degree? Y / N

Are you retired? Y / N

Are you disabled? Y / N

Serve in the military? Y / N

What is your race? _____

What is your gender? _____

YOU AND THE INTERNET

A Quality of Life Survey

You and Technology

Do you have a...

- Desk top computer Y/N
- Laptop Y/N
- Chrome book Y/N
- Smart phone Y/N
- Tablet Y/N
- Xbox Y/N
- Play Station Y/N
- Smart TV Y/N

How comfortable are you using the internet?

Have you or anyone in your home used the internet for education?

If yes, was it for

- School Y / N
- College Y / N
- Job training Y / N
- General knowledge Y / N

How many hours a day are you or they online?

_____

Do you have more than one person needing the internet at the same time?

Y / N

Did you use the internet elsewhere like at the library, free Wi-Fi, or school?

Y / N

Do you or anyone in your home have professionals/doctors for your health?

Y / N

Have you used or been offered video visits?

Y / N

Was your internet strong enough at home to do a video visit?

Y / N

How comfortable are you with video health appointments?

Do you order groceries, pizza or prescriptions online?

Y / N

Do you shop online?

Y / N

Would you want to work from home via computer?

Y / N

How comfortable are you with having a job working on a computer at home?

How fast is your internet?

AHEAD Survey Draft

1. Please tell us your zip code: _____

Household Information

2. Which best describes where you live?

- o A mobile home
- o A one-family house detached from any other house
- o A one-family house attached to one or more houses
- o A building with 2 to 4 apartments
- o A building with 5 to 10 apartments
- o A building with 10 to 20 apartments
- o A building with more than 20 apartments
- o Boat, RV, van

3. Have you lived in the same place/residence ONE YEAR AGO?

- o Yes
- o No

4. How many separate rooms are in this house, apartment, or mobile home? INCLUDE bedrooms, kitchens, etc. EXCLUDE bathrooms, porches, balconies, foyers, halls, or unfinished basements:_____

5. How many of these rooms are bedrooms? _____

6. How many **other people** live in the same household with you? _____

7. How many of the people living in this household are children age 18 or younger? _____

8. Are you currently responsible for most of the basic needs of any children age 18 or younger who live in this household?

- o Yes
- o No

9. In the past 12 months, did you or any member of this household receive benefits from the Food Stamp Program or SNAP (the Supplemental Nutrition Assistance Program)? Do not include WIC, the School Lunch Program or assistance from food banks.

- o Yes
- o No

10. What is your estimated annual household income? _____

11. Do you currently have health insurance/coverage?

o Yes

o No

12. If YES, please select the type of health insurance/coverage you have?

o Insurance through a current or former employer or union (of this person or another family member)

o Insurance purchased directly from an insurance company (by this person or another family member)

o Medicare (for people 65 and older, or people with certain disabilities)

o Medicaid

o VA or other military health care

o Other. Please specify: _____

13. In the last year, have you or anyone in your household experienced challenges/hardship in any of the following areas:

o Health

o Education

o Employment

o Food security

14. Please describe the challenges/hardship you experienced in the last year:

_____

Internet Access

15. Do you currently have access to the internet at home?

o Yes

o No [GO TO Question 19]

16. If Yes, did you at any point in the past year, temporarily lose the home internet access due to difficulty paying?

o Yes

o No

17. If YES, are you satisfied with the quality (i.e., speed) of your internet connection?

o Yes

o No

18. If YES, please select all ways you have access to the internet at home:

o Cellular data plan using a smartphone or other mobile device.
O Broadband (high speed) internet service (such as cable, fiber optic, or DSL)

o Satellite internet service

o Dial-up internet service

o Other. Please specify: _____

19. If NO, please check all the reasons you do not have internet at home:

O Don't need it/not interested

o Can't afford it

o Not worth the cost

o Can use it elsewhere

o Not available in area

o Do not have an electronic device, or device is inadequate or broken

o Other. Please specify: _____

20. If NO, do you have an alternate way to access the internet?

o No, there is no way to access the internet elsewhere in my community

o Yes. My child stays after school / goes before school

o Yes. Access at a local business (restaurant, store, etc.)

o Yes. Access at the local library

o Yes. Borrow an internet enabled device from a family member or friend.

o Yes. Access at a friend or family member's home.

o Other. Please specify: _____

21. In general, are you satisfied with the availability of the internet in your community?

o Yes

o No

22. How comfortable do you feel using the Internet?

O Very comfortable

o Somewhat comfortable

o Neither comfortable nor uncomfortable

o Somewhat uncomfortable

o Very uncomfortable

23. Do you, or a member of this household, own or use, any of the following electronic devices (check all that apply)

o Desktop

o Laptop or Chromebook

o Smartphone

o Tablet (e.g., iPad, Android, Nook, Fire, Kindle, etc.)

o Game Console (Xbox, PlayStation, etc.)

o Smart TV

o Other. Please specify: _____

24. How comfortable do you feel using electronic devices, in general?

O Very comfortable

O Somewhat comfortable

O Neither comfortable nor uncomfortable

O Somewhat uncomfortable

O Very uncomfortable

Internet use

25. How often do you use the internet?

o Several times a day

o Once a day (everyday)

o Once a week

o Several times a week

o Once a month

o Less than once a month

26. On average, how many hours per day do you spend on the internet? _____

27. Please select TOP THREE reasons you use internet the most for:

o Web browsing

o Shopping

o Social Networking

o Watching/streaming TV, videos, music

o Work

o School

o Healthcare (telehealth)

o Email/messaging others

o Gaming

o Selling goods or services

o Searching volunteer opportunities

o Searching cultural or recreational opportunities

o Other. Please specify: _____

FOR EACH OF THE TOP THREE REASONS:

28 – 30. How important is [the above listed] to:

	Important	Moderately important	Not important at all
Your life as a whole			
Your standard of living			
Maintaining relationships and connections			
Maintaining a sense of belonging in your community			
Ability to work or learn			
Overall mental wellbeing			

31. Have you used the internet in the past month to:

o Improve your physical or mental health (telehealth, prescriptions, etc.)

o Education (K-12, college, personal skill building)

o Work (telework, remote or virtual, find or apply for work, etc.)

o Improve your ability to live alone (lifeline, connection to family, virtual assistants, etc.)

o Entertainment (watch or stream video or audio content, games)

32. During the past year, has anyone ever repeatedly used the Internet to hurt, harass, intimidate, or embarrass you or a member of the household?

o Yes

o No

33. Complete the following sentence in the way that comes closest to your own views: "Since getting on the Internet, I have..."

o become MORE connected with people like me.

o become LESS connected with people like me

o Don't know/can't say

INTERNET for WORK

34. Are you currently employed?

o Yes, part-time

o Yes, full-time

o No, but I was until recently (had temporary employment or lost employment within the last month)

o No [GO TO Question 36]

o Other. Please specify: _____

35. How do you usually get to work?

o My own vehicle (Car, truck, van)

o Family/friend vehicle

o Bus

o Taxicab (or ride share)

o Motorcycle

o Bicycle

o Walk

o Work from home

o Other. Please specify: _____

36. When did you last work?

o Within the last 6 months

o More than 6 months ago, but within 1 year

o 1 to 5 years ago

o More than 5 years ago or never worked

37. Have you used internet for work in the last month?

O Yes, to work from home (online work)

O Yes, to search for work

O No [GO TO next Section]

38. If YES, how would you rate the quality of the connection when using internet for entertainment purposes?

Good Adequate Lacking in quality

39. On average, how many hours per day do you spend on the Internet for work purposes?

o Less than 1 hour a day

o 1-2 hours

o 2-3 hours

o 3-4 hours

o More than 4 hours a day

40. Which electronic device do you use most often for work purposes? Select only ONE

o Desktop

o Laptop or Chromebook

o Smartphone

o Tablet (e.g., iPad, Android, Nook, Fire, Kindle, etc.)

o Other. Please specify: _____

INTERNET for EDUCATION

41. Have you used internet for educational purposes (e.g., online school, homework, personal skill building, professional training, etc.) in the last year?

o Yes

o No [skip section]

42. Where have you accessed internet for educational purposes? Please select all that apply

O at home

o at school

o at the library

o at friends/family house

o Other. Please specify: _____

43. In general, the connection to internet for educational use is:

Good Adequate Lacking in quality

44. In general, how comfortable you feel using internet for educational purposes?

O Very comfortable

O Somewhat comfortable

O Neither comfortable nor uncomfortable

O Somewhat uncomfortable

O Very uncomfortable

45. On average, how many hours per day do you spend on the Internet for educational purposes? _____

46. Which electronic device do you use most often for educational purposes?

o Desktop

o Laptop or Chromebook

o Smartphone

o Tablet (e.g., iPad, Android, Nook, Fire, Kindle, etc.)

o Game Console (Xbox, PlayStation, etc.)

o Smart TV

o Other. Please specify: _____

47. To the best of your knowledge, how old is the electronic device you use most for educational purposes?

o 2 Years or Newer

o 3 - 5 Years Old

o 5 Years Old or Older

o Not applicable. I own no electronic device.

48. When using internet for educational purposes did you had issues that prevented you to complete assignments?

o Yes

o No

49. What prevented you from completing assignments?

o Lack of internet or issues with connectivity

o Lack of study materials

o Lack of motivation

o Lack of support

o Other. Please specify: _____

50. During the last year, how did the children in this household receive their education? Select all that apply.

o Children received in-person instruction from a teacher at their school

o Children received virtual/online instruction from a teacher in real time

o Children learned on their own using on-line materials provided by their school

o Children learned on their own using paper materials provided by their school

o Children learned on their own using materials that were NOT provided by their school

o Children did not participate in any learning activities

o Other. Please specify: _____

51. In a typical week, on how many days did the student(s) have real time contact, which is not pre-recorded contact, with their teachers by video, in person, or by phone? Select only one answer.

o None

o 1 day

o 2-3 days

o 4 or 5 days

52. To the best of your knowledge, which electronic device did the children in this household use most often for educational purposes?

o Desktop

o Laptop or Chromebook

o Smartphone

o Tablet (e.g., iPad, Android, Nook, Fire, Kindle, etc.)

o Game Console (Xbox, PlayStation, etc.)

o Smart TV

o Other. Please specify: _____

53. Thinking about the children in school living in this household, to the best of your knowledge, when using internet for educational purposes did they had issues that prevented them to complete assignments?

o Yes

- No

54. What prevented them from completing assignments?

o Lack of internet or issues with connectivity

o Lack of study materials

o Lack of motivation

o Lack of support

o Other. Please specify: _____

Internet for Healthcare

55. Thinking of yourself and the people living in this household, is there anybody that has:

	Yes	**NO**
Serious difficulty hearing?		
Serious difficulty seeing even when wearing glasses?		
Serious difficulty concentrating, remembering, or making decisions?		
Serious difficulty walking or climbing stairs?		
Serious difficulty doing		

errands (such as visiting a doctor's office, shopping, etc.)?		

56. How would you rate your mental health over the past 4 weeks?

o Poor

o Fair

o Good

o Very Good

o Excellent

57. How would you rate your physical health over the past 4 weeks?

o Poor

o Fair

o Good

o Very Good

o Excellent

58. In the last month, did you have an appointment with a doctor, nurse, or other health professional by video or by phone?

o Yes

o No [GO TO question 61]

59. If YES, please specify when your most recent telehealth appointment was (month and day)

_____

60. if YES, what type of appointment was? Select all that apply.

o Phone appointments without video

o Video appointments

61. Did you have an appointment with a doctor, nurse, or other health professional by video or by phone, **before the coronavirus pandemic**?

o Yes

o No

Thinking of your most recent telehealth call:

62. How would you rate the quality of service you received?

Excellent Good Fair Poor

63. To what extent has our service met your needs?

o Almost all of my needs have been met

o Most of my needs have been met

o Only a few of my needs have been met

o None of my needs have been met

64. If a friend needed similar help, would you recommend the video or phone health service to him or her?

o No, definitely not

o No, I don't think so

o Yes, I think so

o Yes, definitely

65. In general, on a scale from 1 to 5 where 1 is "disagree" and 5 is "agree" please score the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Telehealth improves my access to healthcare services					
Telehealth saves me time traveling to a hospital or specialist clinic					
Telehealth provides for my healthcare need					
I believe I could become productive quickly using this system					
I can easily talk to the clinician using the telehealth system					
I think the visits provided over the telehealth system are the same as in-person visits					
I feel comfortable communicating with the clinician using the telehealth system					
I would use telehealth services again					
Overall, I am satisfied with this telehealth system					

INTERNET for ENTERTAINMENT

67. When using the **internet for entertainment purposes** what purpose best describe your use:

o Web browsing

o Shopping

o Social Networking

o Watching/streaming TV, videos, music

o Email/messaging others

o Gaming

o Other. Please specify: _____

68. Where do you access internet most often for entertainment purposes?

o at home

o at the library

o at a local business

o I do not use internet for entertainment

o Other. Please specify: _____

69. How would you rate the quality of the connection when using internet for entertainment purposes?

Good Adequate Lacking in quality

70. On average, how many hours per day do you spend on the Internet for entertainment purposes?

o Less than 1 hour a day

o 1-2 hours

o 2-3 hours

o 3-4 hours

o More than 4 hours a day

71. Which electronic device do you use most often for entertainment purposes? Select only ONE

o Desktop

o Laptop or Chromebook

o Smartphone

o Tablet (e.g., iPad, Android, Nook, Fire, Kindle, etc.)

o Game Console (Xbox, PlayStation, etc.)

o Smart TV

o Other. Please specify: _____

72. When using internet for entertainment purposes do you have issues that prevented you from accessing or enjoying content?

o Yes

o No

73. What prevented you from accessing or enjoying content?

o Lack of internet or issues with connectivity

o Lack of device

o Lack of time

o Lack of motivation

o Other. Please specify: _____

Internet and Quality of Life

74. In general, how would you rate your quality of life?

Excellent Good Fair Poor

75. How satisfied are you with connections to family and friends?

O very satisfied

O satisfied

O neither satisfied, nor dissatisfied

O somewhat dissatisfied

O dissatisfied

76. How satisfied are you with your ability to move around independently?

O very satisfied

O satisfied

O neither satisfied, nor dissatisfied

O somewhat dissatisfied

O dissatisfied

77. Do you require any medical treatment or assistance to function in your life?

o Yes

o No

78. During the past 30 days, approximately how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

_____ days

79. Are you satisfied with the quality of life in our community? (Consider your sense of safety, well-being, participation in community life and associations, etc.)

- o Yes
- o No

80. Are you satisfied with the health care system in the community? (Consider access, cost, availability, quality, options in health care, etc.)

- o Yes
- o No

81. Is this community a good place to raise children? (Consider school quality, day care, after school programs, recreation, etc.)

- o Yes
- o No

82. Is this community a good place to grow old? (Consider elder-friendly housing, transportation to medical services, churches, shopping; elder day care, social support for the elderly living alone, meals on wheels, etc.)

- o Yes
- o No

83. Are there economic opportunities in the community? (Consider locally owned and operated businesses, jobs with career growth, job training/higher education opportunities, affordable housing, reasonable commute, etc.)

- o Yes
- o No

84. Is the community a safe place to live? (Consider residents' perceptions of safety in the home, the workplace, schools, playgrounds, parks, the mall. Do neighbors know and trust one another? Do they look out for one another?)

- o Yes
- o No

85. What quality of life barriers are you facing on a regular basis? Select all that apply

- O alcohol use
- O substance/drug use
- O mental health issues
- O physical health issues
- O food access
- O financial issues

O Other. Please specify: _____

86. In the last month, have you used internet to address any quality-of-life issues:

o Yes

o No

87. If YES, please specify how you used the internet to help with quality-of-life barriers? Select all that apply

O connected online (telehealth) with a healthcare service provider

O attended a virtual meeting

O used online ordering services (food, household items)

O browse the web for employment opportunities

O browse the web for volunteering opportunities

O browse the web for free recreational or educational opportunities

O Other. Please specify: _____

88. On a scale from “1” to “5”, please specify how satisfied you are with the use of internet to improve your quality of life:

O very satisfied

O satisfied

O neither satisfied, nor dissatisfied

O somewhat dissatisfied

O dissatisfied

89. Please describe how the use of internet helped or not with the quality-of-life barriers you are facing?

_____

Internet and Aging in place

90. When considering aging in place, do you feel that your community has the capacity to address the needs of aging people?

o Yes

o No

91. When considering aging in place, do you feel you have the support system you need to grow old in your home?

o Yes

o No

92. What type of services would help you stay in your home at old age? Select all that apply

O transportation to doctor’s appointments

O help with running errands

O help with housework

O safety house environment

O easy access to a support system (including via internet)

O help with meals

O age-appropriate exercise opportunities

O Other. Please specify: _____

93. Have you or anyone in your household used the internet as a support tool for their aging needs?

o Yes

o No

94. If YES, what did you or anyone in your household used the internet for?

O connect with a doctor online (telemedicine)

O order prescription medication

O order supplies (food, household items)

O connect with family and friends

O search for age-appropriate volunteer opportunities

O search for age-appropriate recreational opportunities

O ask for help (help line, etc.)

O other. Please specify: _____

95. Do you feel you or anyone in your household have access to enough online information to meet aging needs?

o Yes

o No

96. Do you feel you or anyone in your household have access to enough online services to meet aging needs?

o Yes

o No

97. When thinking about internet use and aging in place, what do you feel is missing from addressing the needs? (Consider what an aging person needs and what services or opportunities can be provided online)

Demographic Information

98. Please specify your age: ____

99. Please specify your race:

- o White
- o Black/African American
- o American Indian/Alaska Native
- o Asian
- o Native Hawaiian/Pacific Islander
- o Other. Please specify: _____

100. Please specify your gender:

- o Male
- o Female
- o Other. Please specify: _____

101. What is the highest degree or level of school you completed? (Please choose one. If currently enrolled, mark the previous grade or highest degree received)

- o Less than High School
- o 12th Grade (NO DIPLOMA)
- o High school diploma
- o GED or alternative credential
- o Some college credit, no degree
- o Associate's degree
- o Bachelor's degree
- o Other. Please specify: _____

102. What is your marital status?

- o Married
- o Widowed
- o Divorced/Separated
- o Single
- o Other. Please specify: _____

103. Have you ever served on active duty in the U.S Armed Forces, Reserves, or National Guard?

- o Never
- o Only on active duty for training in the Reserves or National Guard
- o Now on active duty
- o on active duty in the past, but not now

AHEAD RPIC

Broadband availability analysis

BEAD eligibility is determined by the addition of unserved **and** underserved BSLs in a census block.

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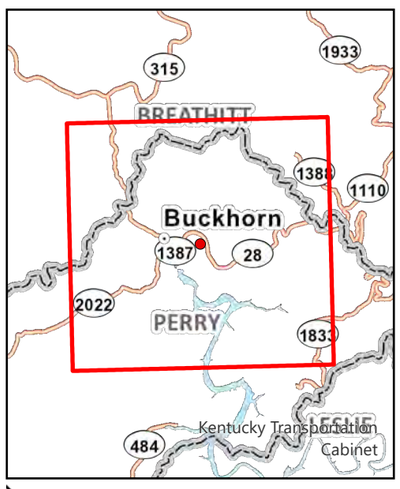
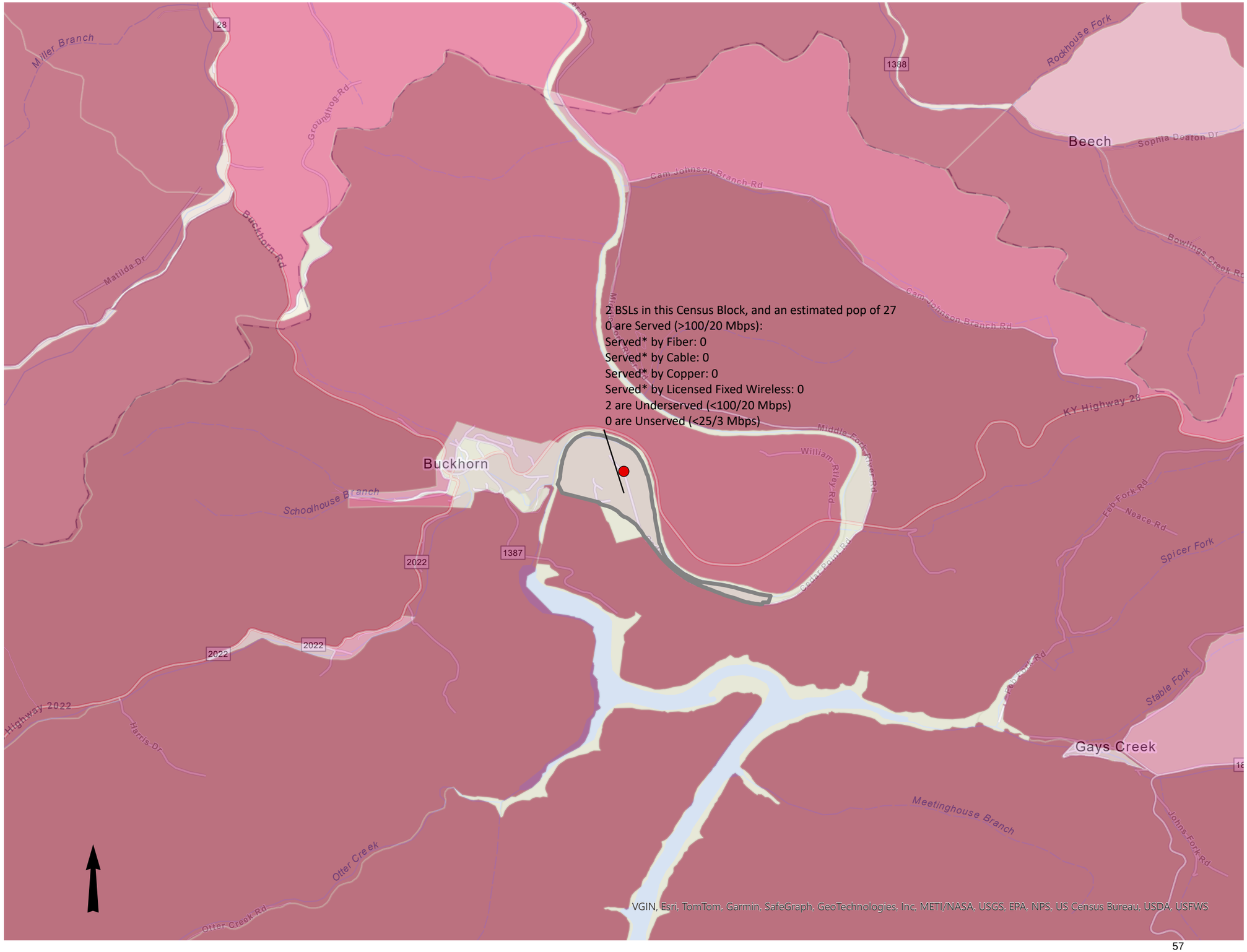
BEAD Eligible

127

0





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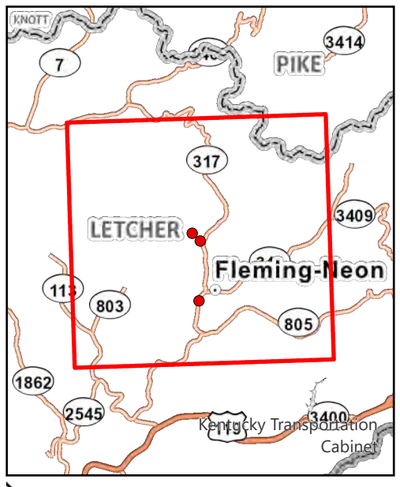
127

0



1 BSLs in this Census Block, and an estimated pop of 9
1 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 1
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

2 BSLs in this Census Block, and an estimated pop of 3
2 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 2
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

3 BSLs in this Census Block, and an estimated pop of 2
3 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 3
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

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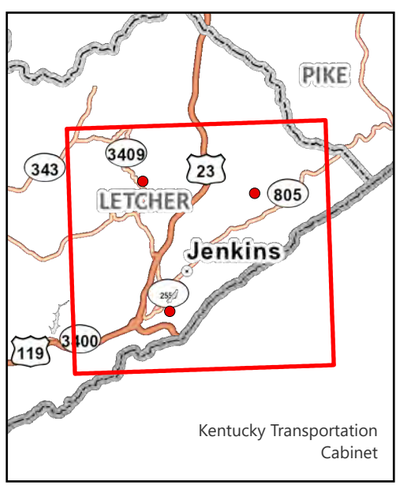
BEAD Eligible

127

0



122 BSLs in this Census Block, and an estimated pop of 223
121 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 121
Served* by Copper: 2
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
1 are Unserved (<25/3 Mbps)

30 BSLs in this Census Block, and an estimated pop of 223
30 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 30
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

217 BSLs in this Census Block, and an estimated pop of 329
214 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 214
Served* by Copper: 86
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
3 are Unserved (<25/3 Mbps)

AHEAD

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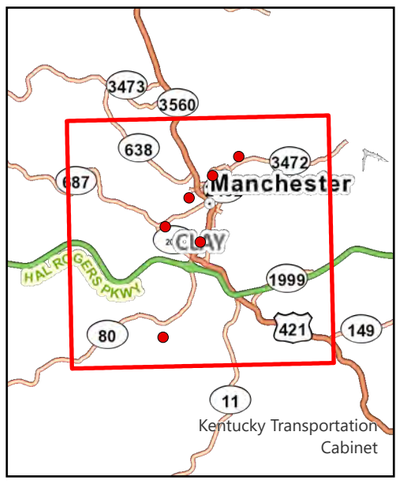
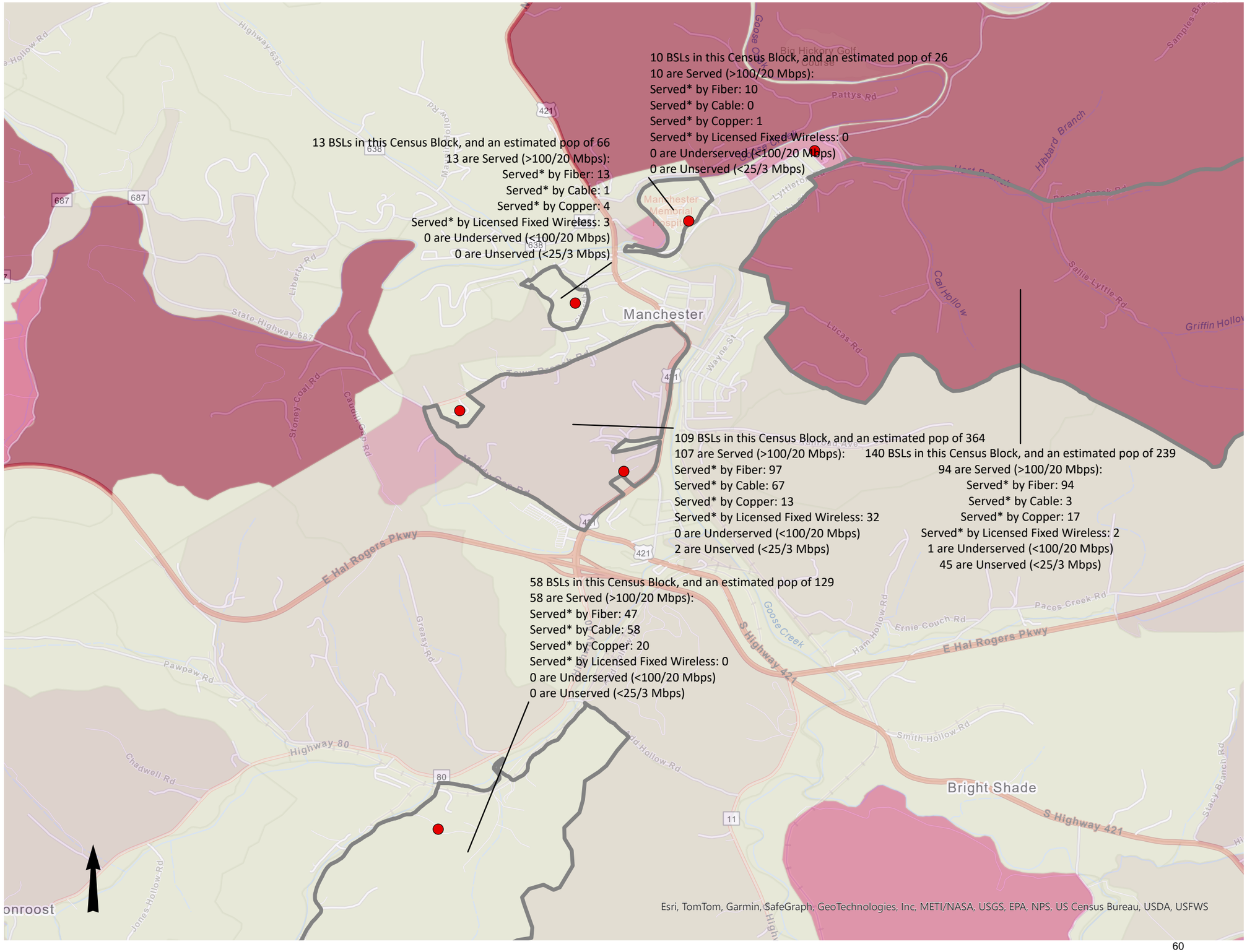
BEAD Eligible

127

0





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127

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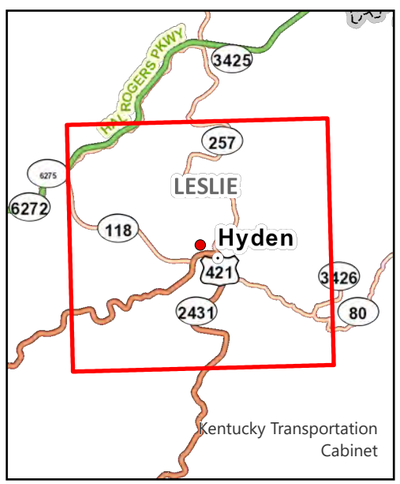

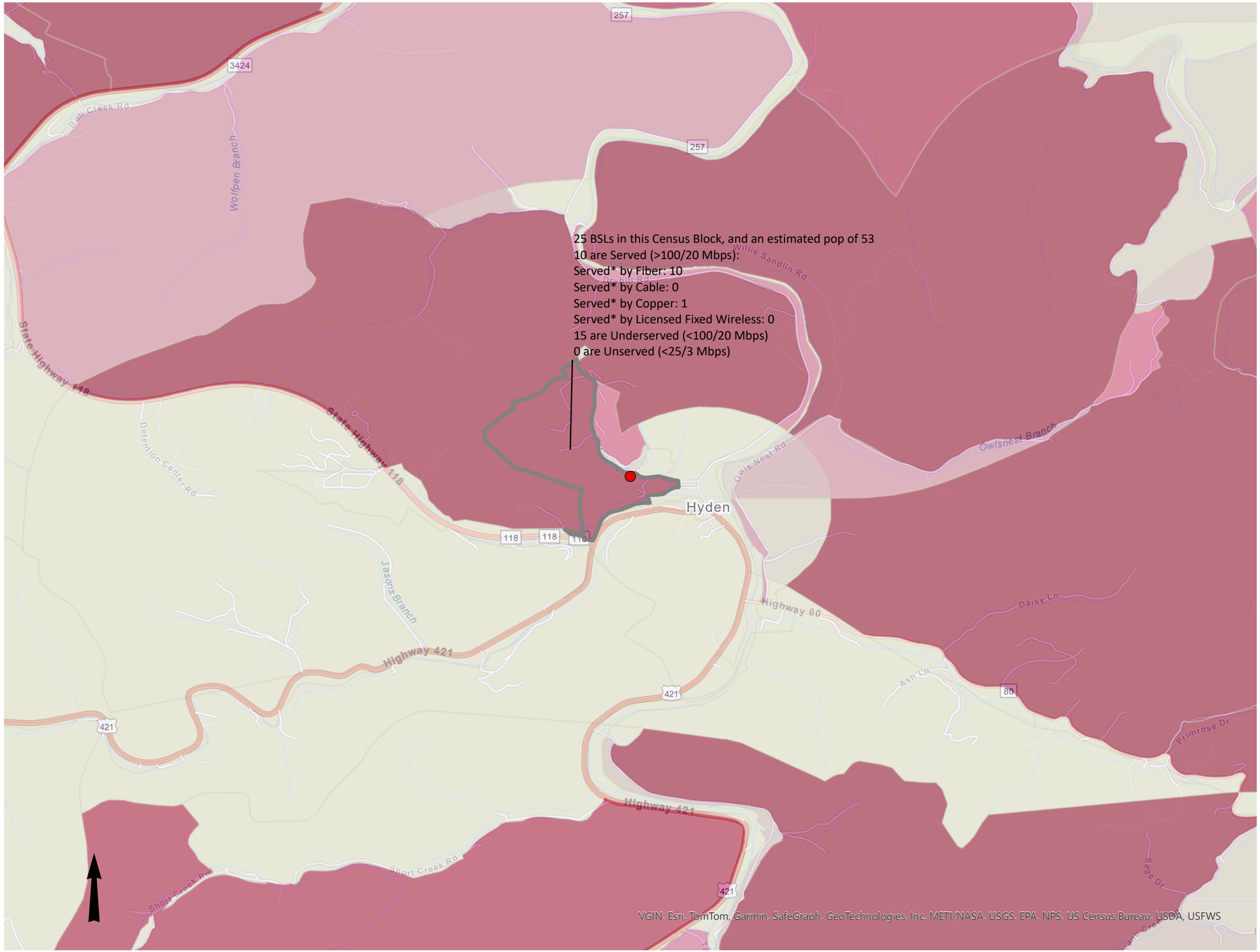

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BEAD Eligible

127

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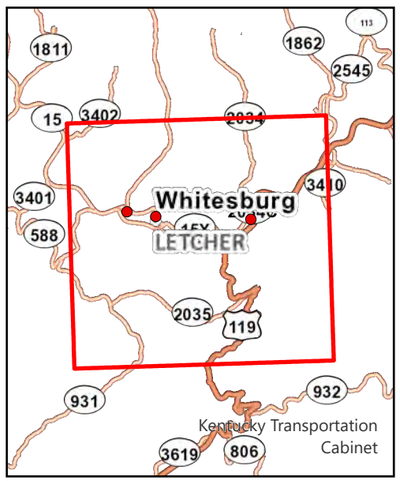

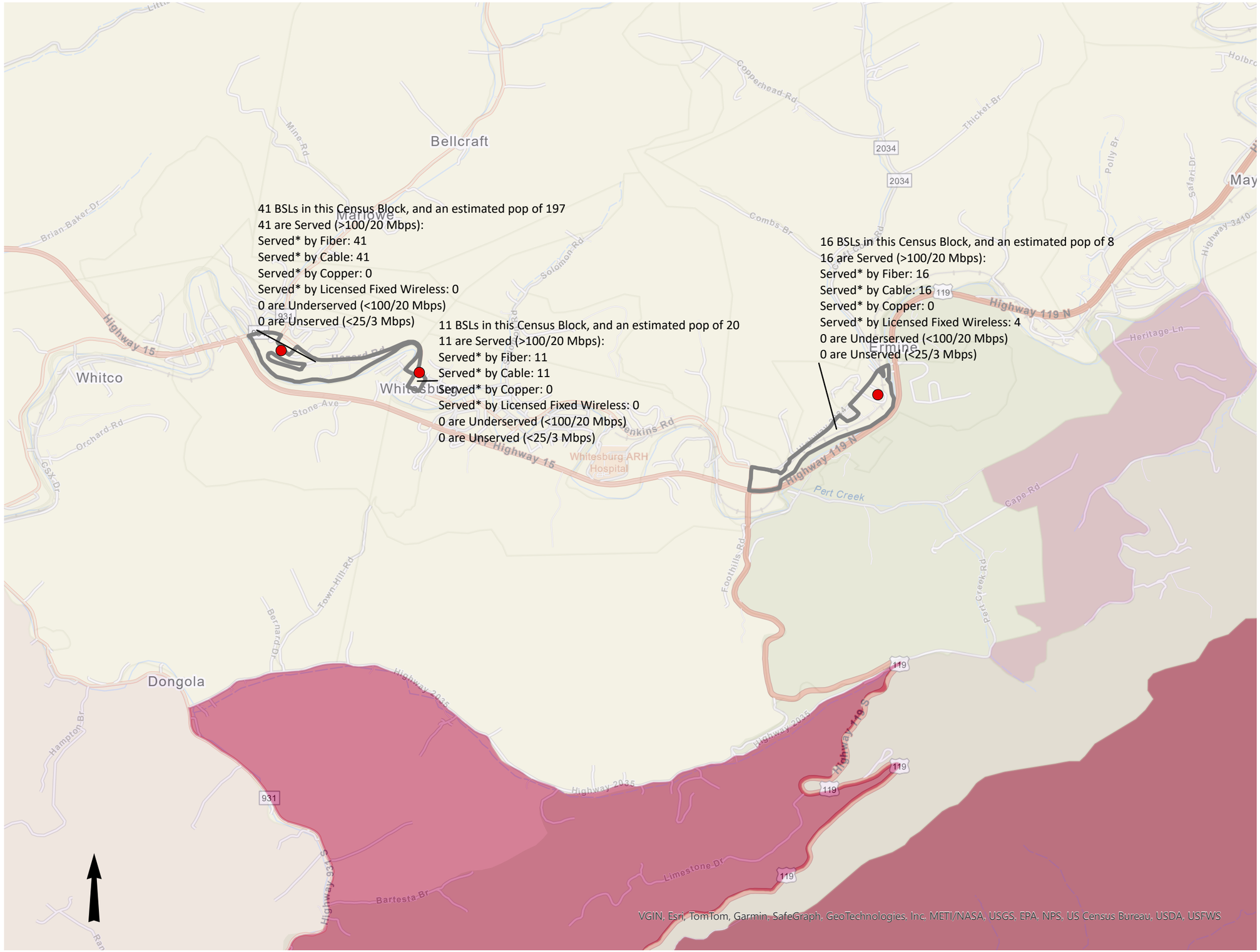

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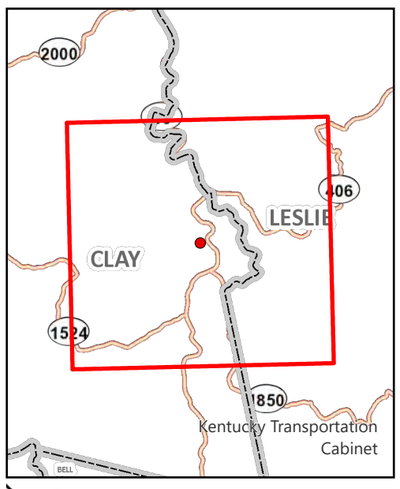

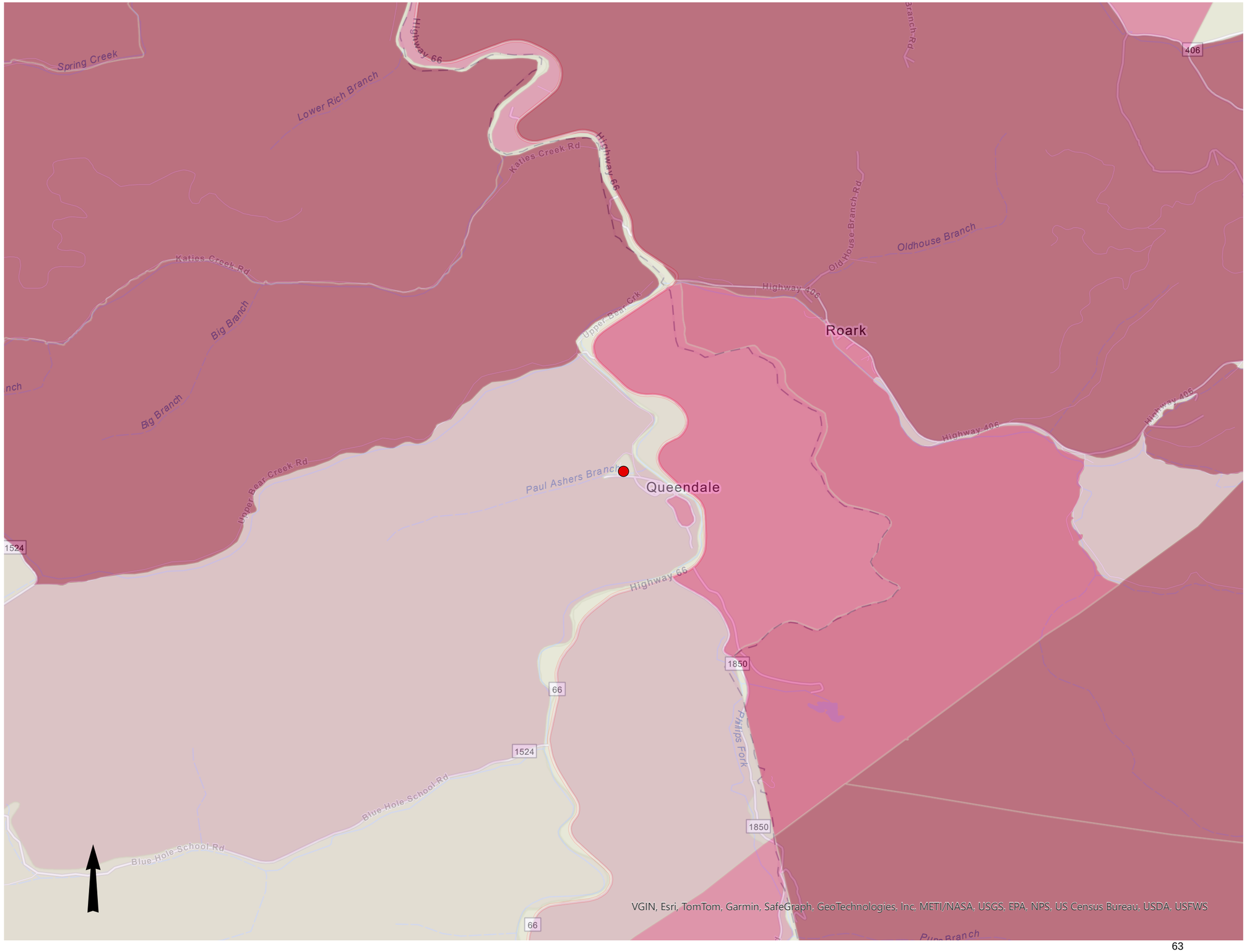

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127

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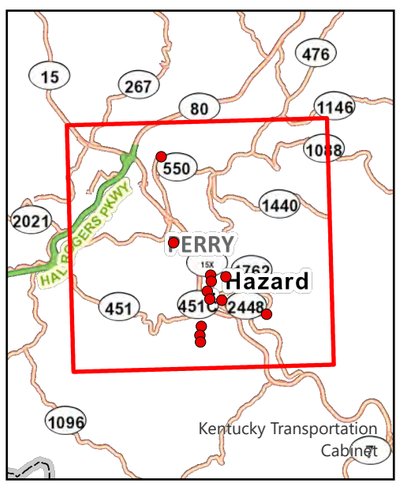

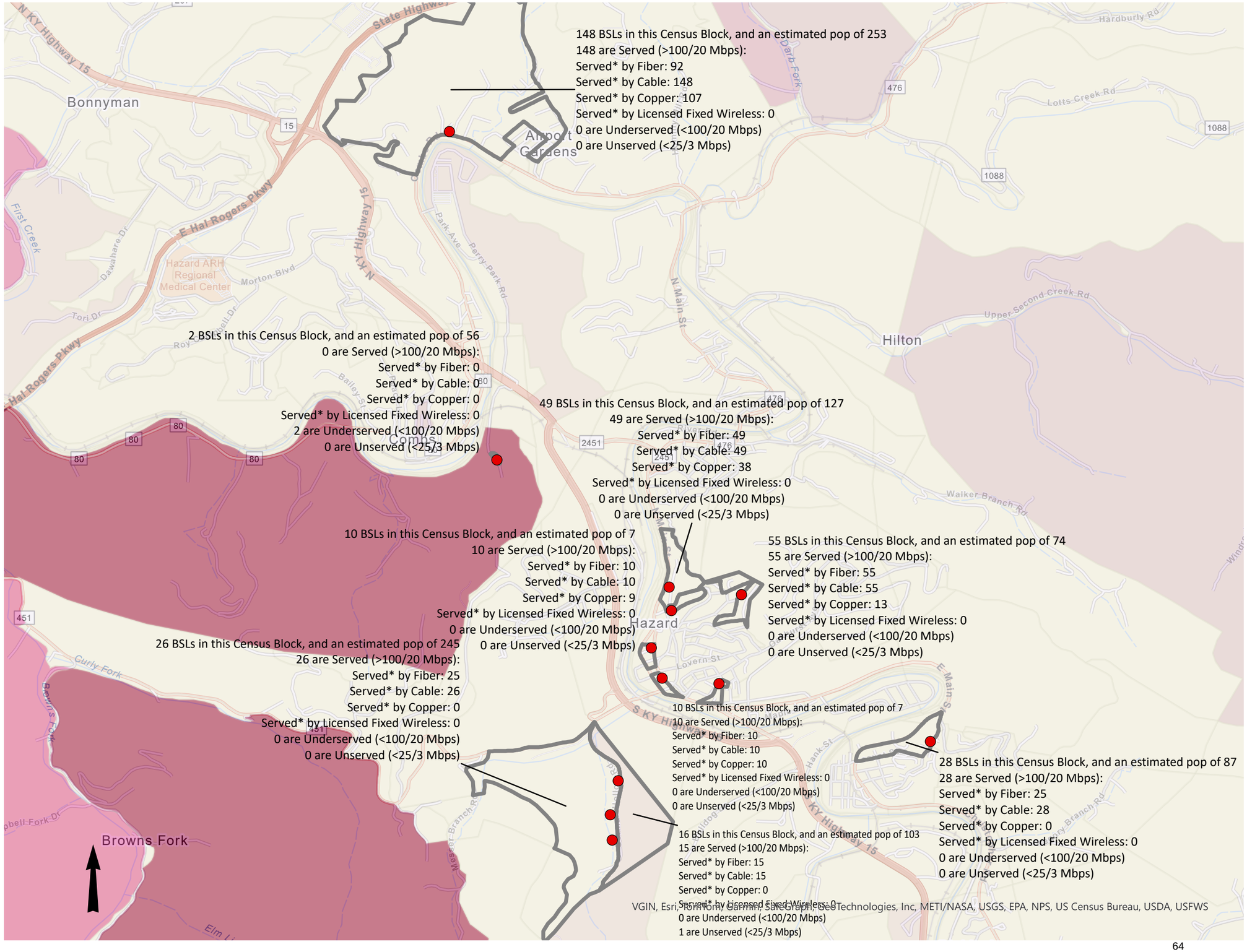

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BEAD Eligible

127

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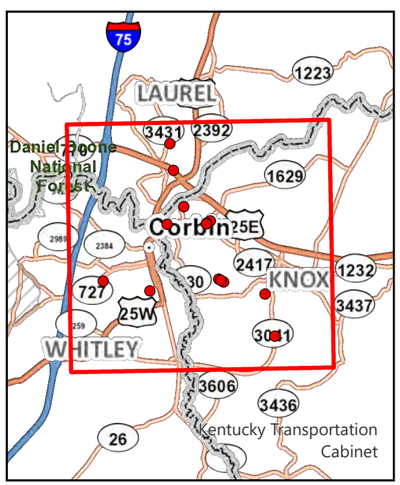

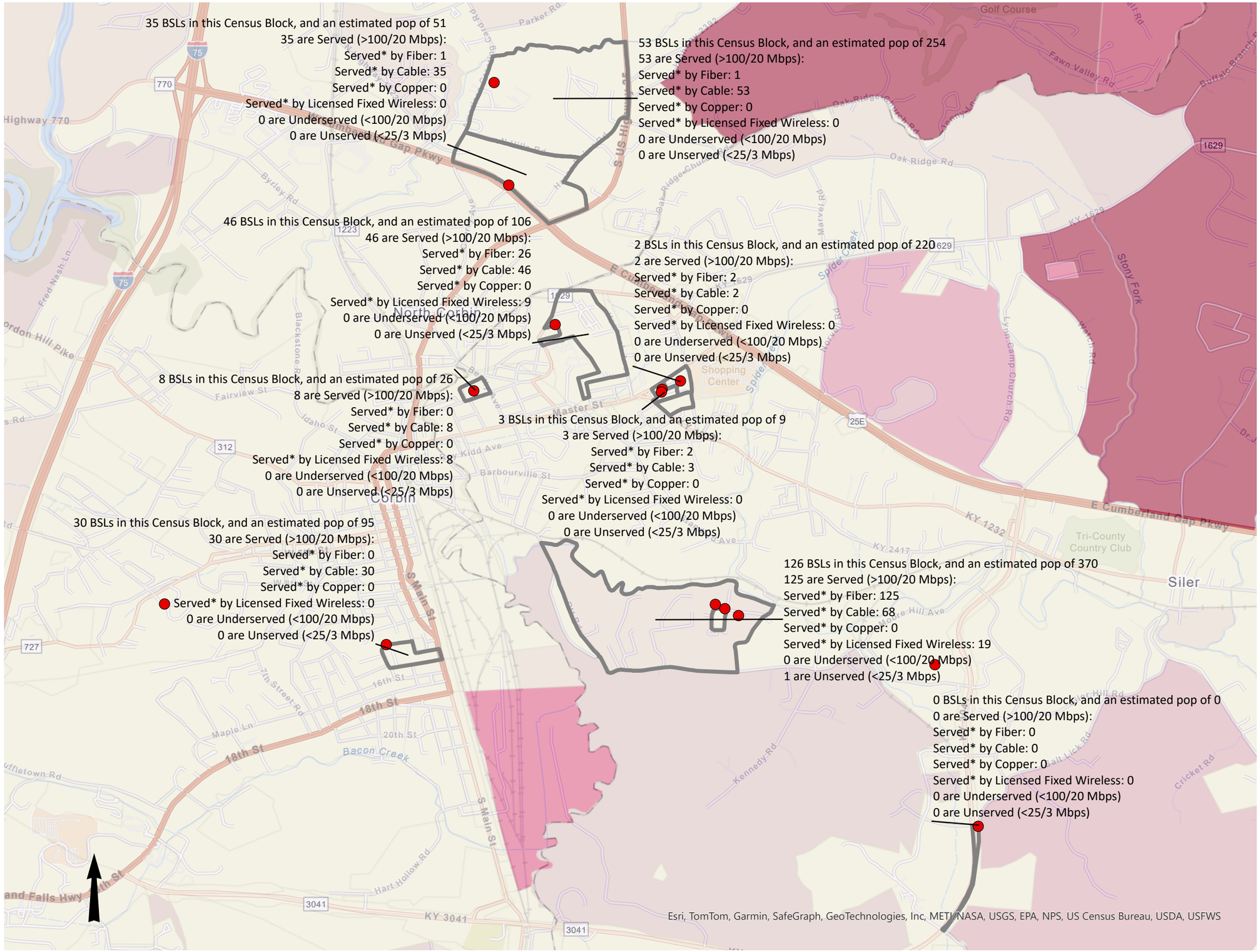

AHEAD

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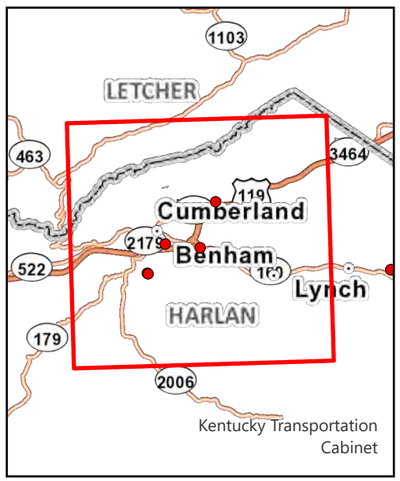
BEAD Eligible

127

0



9 BSLs in this Census Block, and an estimated pop of 138
0 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 0
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
9 are Unserved (<25/3 Mbps)

37 BSLs in this Census Block, and an estimated pop of 79
37 are Served (>100/20 Mbps):
Served* by Fiber: 37
Served* by Cable: 37
Served* by Copper: 34
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

10 BSLs in this Census Block, and an estimated pop of 35
10 are Served (>100/20 Mbps):
Served* by Fiber: 10
Served* by Cable: 10
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 1
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

63 BSLs in this Census Block, and an estimated pop of 83
63 are Served (>100/20 Mbps):
Served* by Fiber: 63
Served* by Cable: 63
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 11
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

AHEAD

RPIC

Broadband availability analysis

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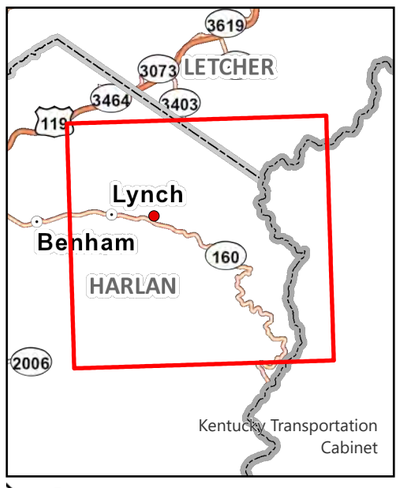
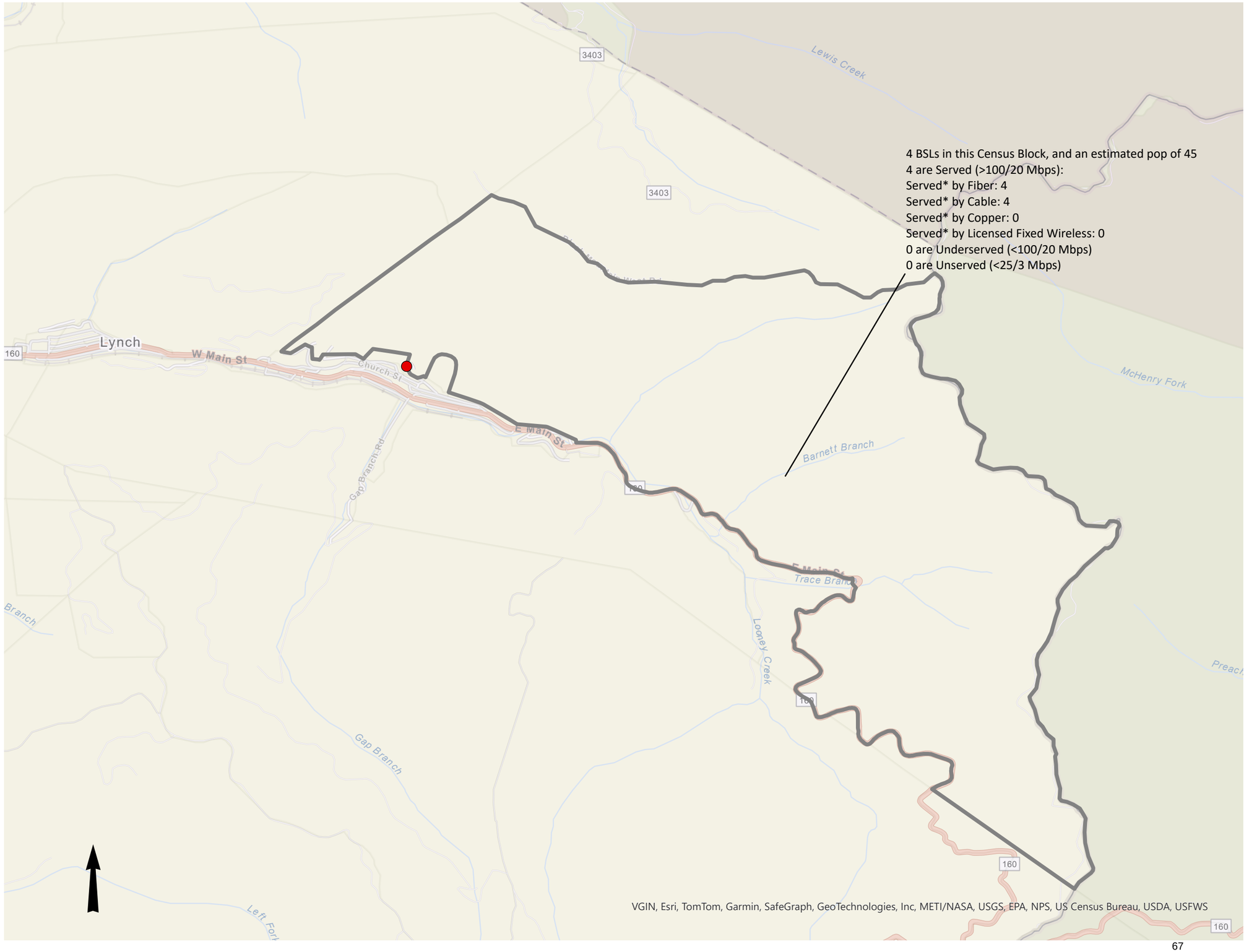
Service data made available by the FCC.

BEAD Eligible

127

0





AHEAD RPIC

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BEAD Eligible

127

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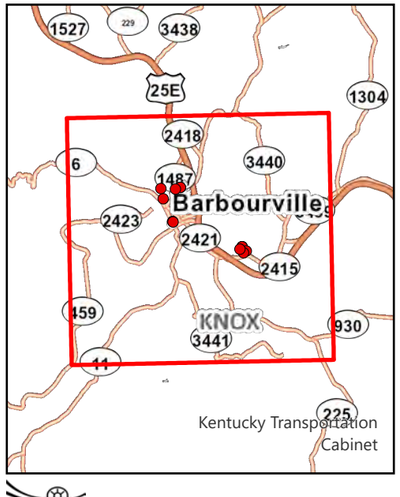

100 BSLs in this Census Block, and an estimated pop of 249
100 are Served (>100/20 Mbps):
Served* by Fiber: 100
Served* by Cable: 24
Served* by Copper: 32
Served* by Licensed Fixed Wireless: 68
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

38 BSLs in this Census Block, and an estimated pop of 193
38 are Served (>100/20 Mbps):
Served* by Fiber: 38
Served* by Cable: 12
Served* by Copper: 13
Served* by Licensed Fixed Wireless: 23
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

14 BSLs in this Census Block, and an estimated pop of 82
14 are Served (>100/20 Mbps):
Served* by Fiber: 14
Served* by Cable: 2
Served* by Copper: 14
Served* by Licensed Fixed Wireless: 10
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

6 BSLs in this Census Block, and an estimated pop of 2
6 are Served (>100/20 Mbps):
Served* by Fiber: 6
Served* by Cable: 6
Served* by Copper: 6
Served* by Licensed Fixed Wireless: 4
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

69 BSLs in this Census Block, and an estimated pop of 372
69 are Served (>100/20 Mbps):
Served* by Fiber: 69
Served* by Cable: 0
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA-USFWS

AHEAD

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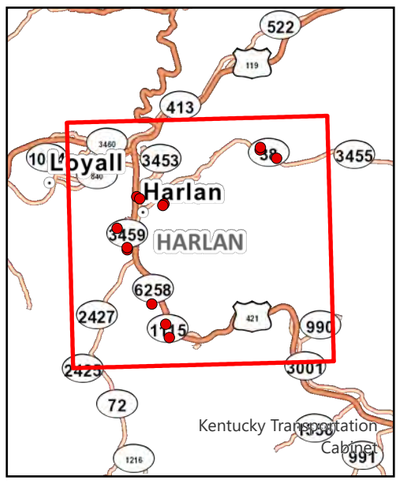
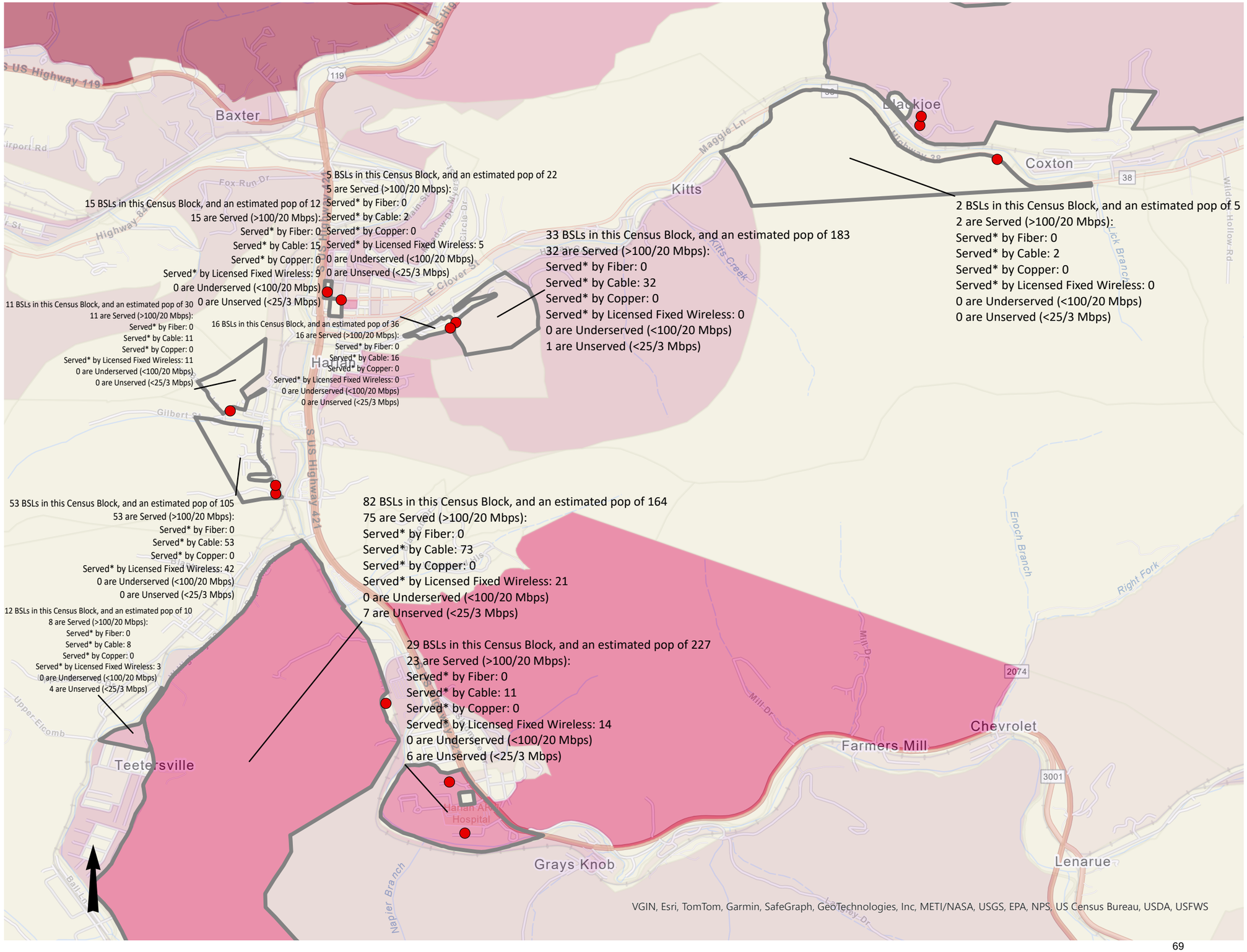
BEAD Eligible

127

0





AHEAD RPIC

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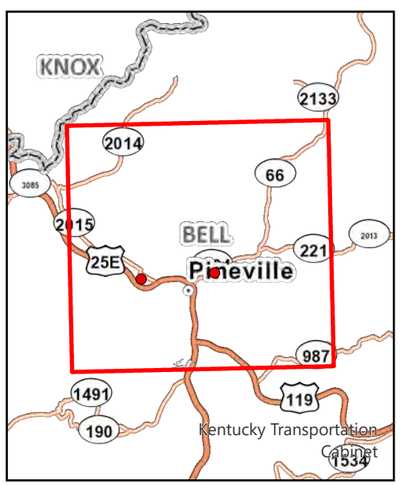
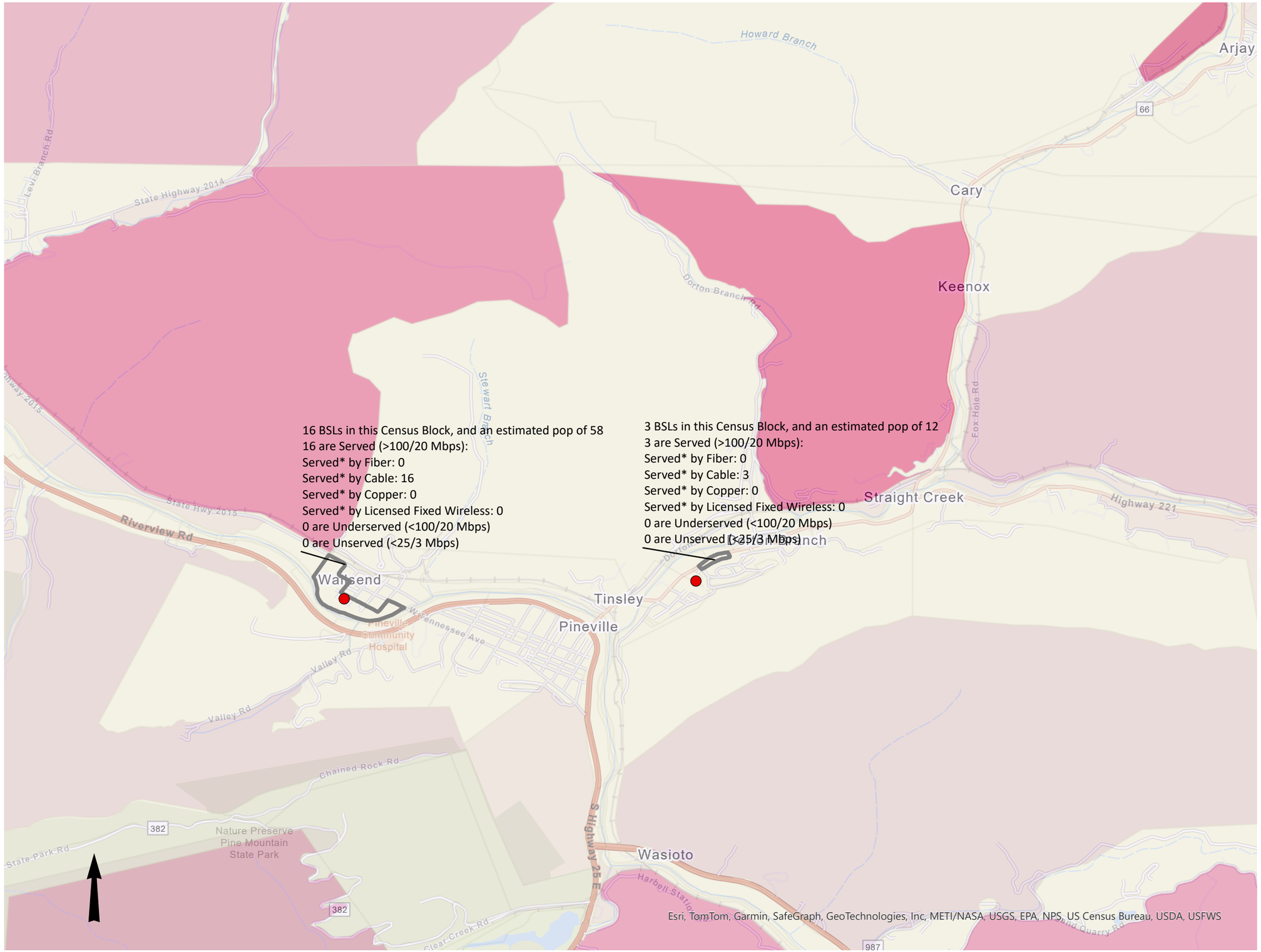
BEAD Eligible

127

0





AHEAD RPIC

Broadband availability analysis

BEAD eligibility is determined by the addition of unserved **and** underserved BSLs in a census block.

* Note - a BSL can be served by multiple providers and transmission technologies. Service statistics correspond with the census block that contains the housing unit. Each standalone apartment or condominium building is considered a single BSL. Service data made available by the FCC.

BEAD Eligible

127

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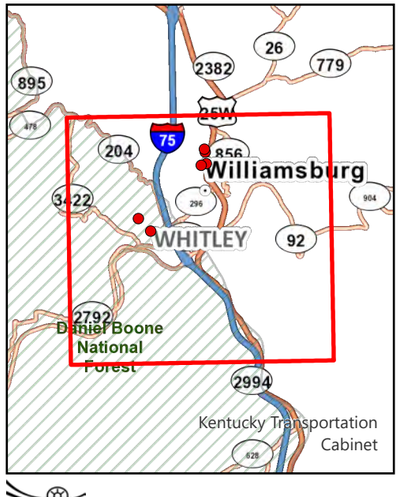

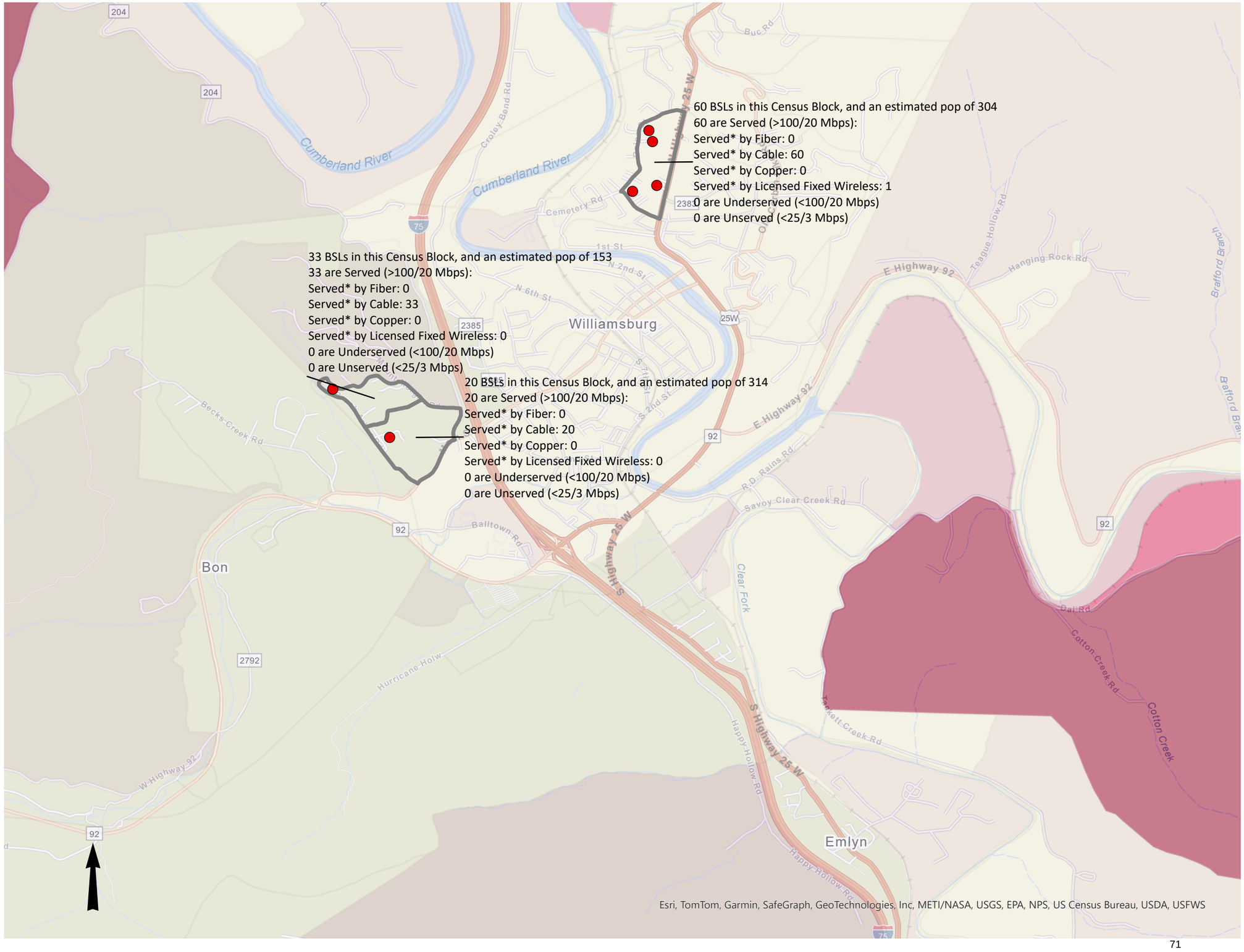

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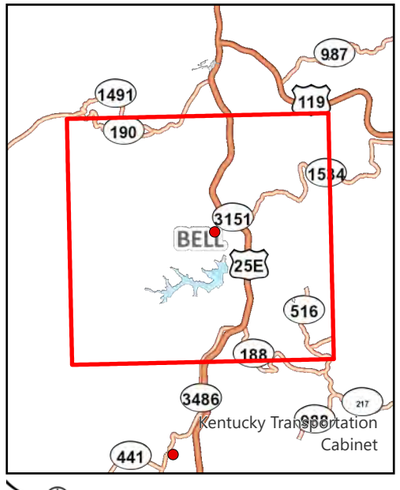

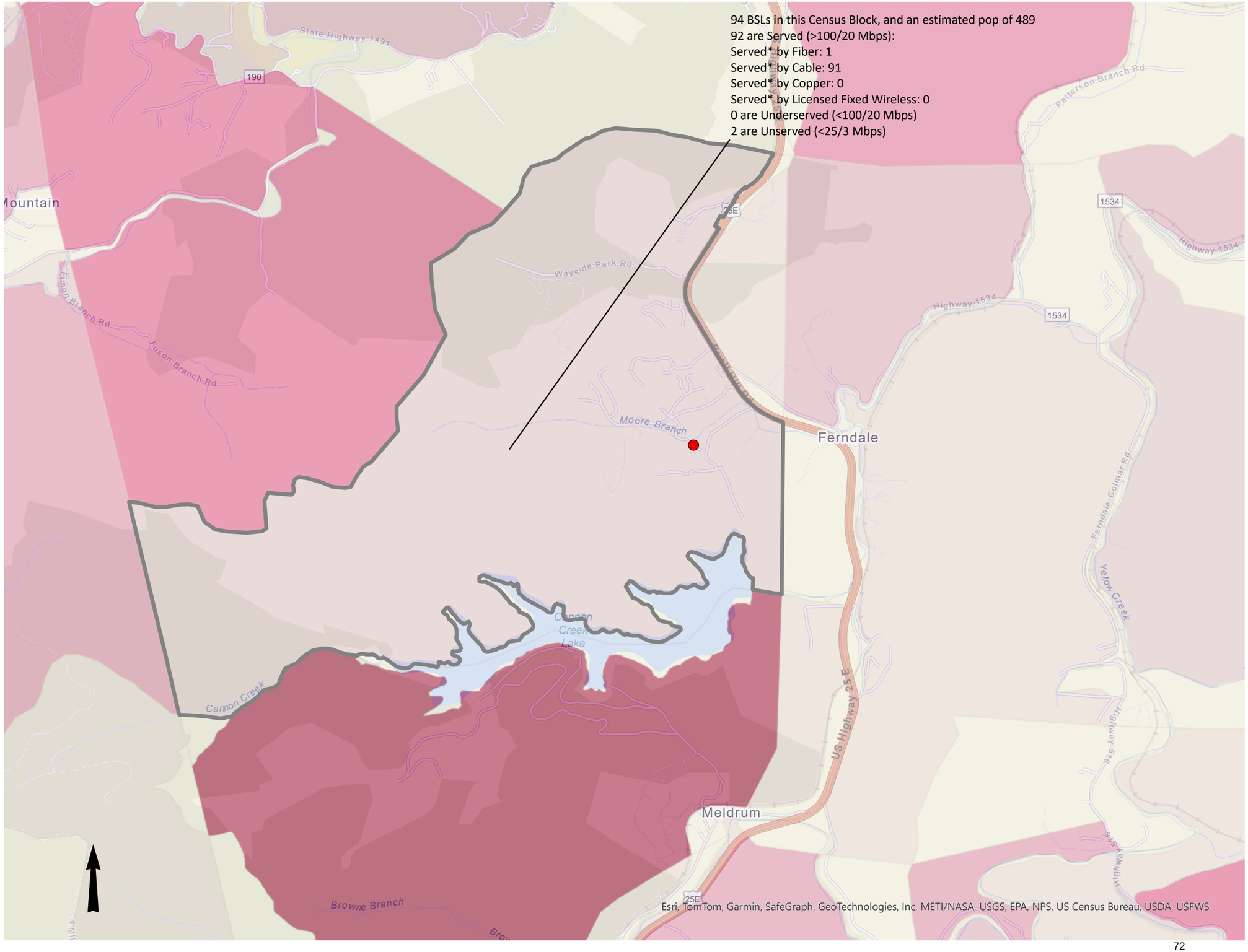

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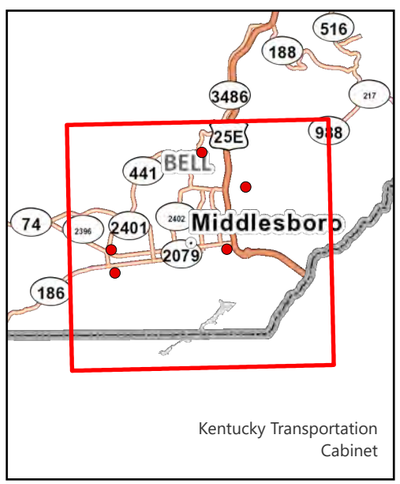

5 BSLs in this Census Block, and an estimated pop of 51
4 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 4
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
1 are Unserved (<25/3 Mbps)

105 BSLs in this Census Block, and an estimated pop of 236
105 are Served (>100/20 Mbps):
Served* by Fiber: 8
Served* by Cable: 105
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 11
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

5 BSLs in this Census Block, and an estimated pop of 50
5 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 5
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

48 BSLs in this Census Block, and an estimated pop of 88
48 are Served (>100/20 Mbps):
Served* by Fiber: 13
Served* by Cable: 47
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 28
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

49 BSLs in this Census Block, and an estimated pop of 217
49 are Served (>100/20 Mbps):
Served* by Fiber: 0
Served* by Cable: 49
Served* by Copper: 0
Served* by Licensed Fixed Wireless: 0
0 are Underserved (<100/20 Mbps)
0 are Unserved (<25/3 Mbps)

Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

SEED GRANTS

Seed grants were introduced to enhance digital inclusion in public housing communities. AHEAD awarded four 2,000 no-match broadband seed grants to four housing authorities: Red Bird, Town Branch, Williamsburg, and Corbin.

Red Bird Housing Authority is located at the edge of Clay and Bell Counties in a remote community called Beverly. After reviewing their application and receiving a memorandum of understanding, Red Bird utilized their award to purchase five Chromebooks for residents without broadband connectivity equipment. They held five digital literacy workshops on August 6, 13, 20, and 21, 2024, four held at the local senior citizens center and one at the government-subsidized apartment complex for elderly/disabled residents. Transportation was provided. Red Bird's Community Broadband Coordinator led the digital literacy workshops utilizing the NorthStar curriculum. They recruited a public housing resident with IT experience to provide ongoing technical assistance, including a unique email address for after-hour questions. Classes included basic computer skills, internet privacy, website security, password management, email use, search engine use, online benefits application, introduction to myky.info, kynect.ky.gov, ssa.gov, voicemail, and Facebook. NorthStar's pre-and-post digital literacy assessments captured gains in digital knowledge. Participants planned to utilize computers for telehealth, leisure, education, shopping, work, banking, and writing.
Nearly 50 residents were impacted by this grant.

The Town Branch public housing is in Clay County's seat, Manchester. Thompson Scholars is a nonprofit organization working closely with the students at this location and were the administrators of the AHEAD Seed grant. After reviewing their application and receiving a memorandum of understanding, Thompson Scholars purchased ten Straight Talk Moxee Mobile Hotspots. They then bought 40, 25-GB, and 10, 50- GB data plans. These hotspots impact 30 residents, 12 adults and 18 children.

Participants noted that their most significant barrier to reliable internet service is cost. In addition to the initial instructions on setting up the device, the participants learned about Infinite Campus, Google Suite, and Google Classrooms.

The Housing Authority of Williamsburg is in Whitley County, Kentucky. After reviewing their application and receiving a memorandum of understanding, the authority purchased five iPads and five Chromebooks to address the barrier of Digital Divide for their residents.

Through their project, Operation Digital Retreat, the housing authority addressed the critical barrier of limited internet access and digital devices faced by their residents by locating the devices in their Retreat Community Room. Residents are encouraged to seek digital literacy training to increase access to essential online services, education, training, employment opportunities, healthcare, and social connectivity.

The Corbin Housing Authority is in both Whitley and Knox Counties, Kentucky. After reviewing their application and receiving a memorandum of understanding, the housing authority contracted with a local ISP to install WiFi hot spots around the new playground area of their public housing units and provide internet services for months to come.

AHEAD Seed Grant Application for Addressing Barriers to Public Housing Residents Accessing the Internet

Funding Organization: Kentucky Highlands Investment Corporation's AHEAD project through the USDA's Rural Placemaking Innovation Challenge Grant
Questions: Sandi Curd, Engagement Director, Kentucky Highlands Investment Corporation
Deadline: July 15, 2024, midnight

Applicant Organization: Example: XYZ Public Housing

Project Title: Example: "Bridging the Digital Divide for Public Housing Residents"

Grant Amount Requested: up to $2,000, no match

Project Summary: Example: The "Bridging the Digital Divide for Public Housing Residents" project addresses the critical barrier of limited internet access faced by public housing residents in the eight Kentucky Counties: Bell, Clay, Harlan, Knox, Leslie, Letcher, Perry, and Whitley. This project can provide free Wi-Fi hotspots, updated computer equipment in the community room, digital literacy training, and technical support to enhance residents' access to essential online services, education, employment opportunities, and social connectivity.

Background and Need: Example: In today's digital age, access to the internet is a fundamental necessity. However, many residents in public housing lack this access due to financial constraints, insufficient infrastructure, or how to utilize knowledge. This digital divide exacerbates social inequalities, limiting education, employment, healthcare, and civic participation opportunities.

Project Goals and Objectives: Examples:

1. **Increase Internet Access:**
    - Provide Wi-Fi hotspots, chrome books, or other necessary equipment.
    - Update computer equipment in the campus' community room
2. **Enhance Digital Literacy:**
    - Conduct digital literacy workshops covering primary internet use, online safety, and essential software skills.

3. **Offer Ongoing Technical Support:**
    - Establish a volunteer-based help desk to assist residents with technical issues and questions.

4. Other creative idea

Implementation Plan: Examples:

1. **Procurement of Equipment:**

    - Partner with a reputable service provider to purchase 20 Wi-Fi hotspots.
    - Ensure each hotspot comes with six months of prepaid internet service.

2. **Digital Literacy Workshops:**

    - Schedule and promote five workshops at community centers within public housing complexes.
    - Recruit volunteers with IT backgrounds to lead the sessions.
    - Provide printed and digital materials for participants to take home.

3. **Technical Support Help Desk:**

    - Set up a dedicated phone line and email for technical support inquiries.
    - Train volunteers to provide troubleshooting and assistance.

4. Other creative idea:

Timeline: Example

- **Week 1:** Project kickoff, hotspot procurement, and initial volunteer recruitment.
- **Week 2:** Begin digital literacy workshops and distribute hotspots.
- **Week 3-5:** Continue workshops and offer ongoing technical support.
- **Week 6:** Assess project outcomes and gather feedback for future initiatives.

Budget: Examples:

- Wi-Fi Hotspots (20 units @ $60 each): $1,200
- Prepaid Internet Service (6 months @ $25 per month per hotspot): $1,500
- Workshop Materials (printing, refreshments): $150

- Technical Support Infrastructure (phone line setup, marketing): $150
- Total: $3,000

Amount Requested from Grant: $2,000

Evaluation: The success of the project will be measured through:

- Pre- and post-project surveys assessing internet access and digital literacy.
- Attendance records from workshops.
- Usage data from distributed hotspots.
- Feedback from residents on the usefulness of the technical support help desk.

Sustainability: Example: To ensure sustainability, we will seek partnerships with local businesses and educational institutions for ongoing support and funding. Additionally, we will explore opportunities to integrate this program into larger community development initiatives.

Conclusion: Example: By providing essential internet access and digital literacy training, the "Bridging the Digital Divide for Public Housing Residents" project will empower residents, fostering more significant personal and economic growth opportunities. We respectfully request $2,000 to support this vital initiative and help close the digital gap in our community.

Contact Information: XYZ personnel

CONCLUSIONS

Other organizations desiring to implement a similar project are advised to seek a partnership with a nonprofit working closely with the students of the public housing campus. AHEAD's work with the nonprofit Thompson Scholars Foundation, which serves the educational needs of public housing students in Manchester, had relationships with students, parents, and guardians to present the ACP program and promote broadband's importance to their families' future. A poor ISP limited this organization, but it was able to advocate for the nearby co-op PRTC to run fiber optics on campus. PRTC was the same co-op piloting a $30 product for public housing residents.

The strength of AHEAD was that it was the only broadband initiative to work with the public housing population. Public housing campuses have a high population density near the ISP providers and should be attractive to ISPs.

However, product cost remains the primary barrier for public housing residents. The Affordable Connectivity Program (ACP) was effective. If this program is funded again, enrollment should be limited to low-income families rather than all families in free-lunch school districts. Also, additional funding should be provided for smaller ISPs to offer a product at ACP reimbursement.

If AHEAD had the opportunity to proceed differently, it would not have partnered with affordable housing but instead with housing authorities. AHEAD had a relationship with the affordable housing industry and erroneously thought there was an overlap with the public housing industry. In hindsight, that overlap did not readily exist. Even the affordable housing partner was surprised by this lack of relationship in the local markets.

Affordable Housing Ecosystem's Accessing Development's (AHEAD's) simple objective to increase the quality-of-life for Southeastern Kentucky's public housing residents with broadband found significant barriers to access. Overwhelmingly, the most crucial factor is the cost for the rural provider to deploy and then offer an affordable product.